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3 1908

Gleanings in Bee Culture

O Errant Bee!

Thou art so gay, so bright and free,
O errant Bee!
Sipping the sweets from flower to flower
So recklessly!
Could I but join thee in thy flight
And hie away
From cares that vex and grieves that cling,
For just one day!
Could I but beat the air with wings
As light as thine—
Upon the sweets of life, like thee,
At will could dine—
Then, gorged with honey, hie me home
To sleep, care free,
And awake, unknowing what morn had
In store for me!

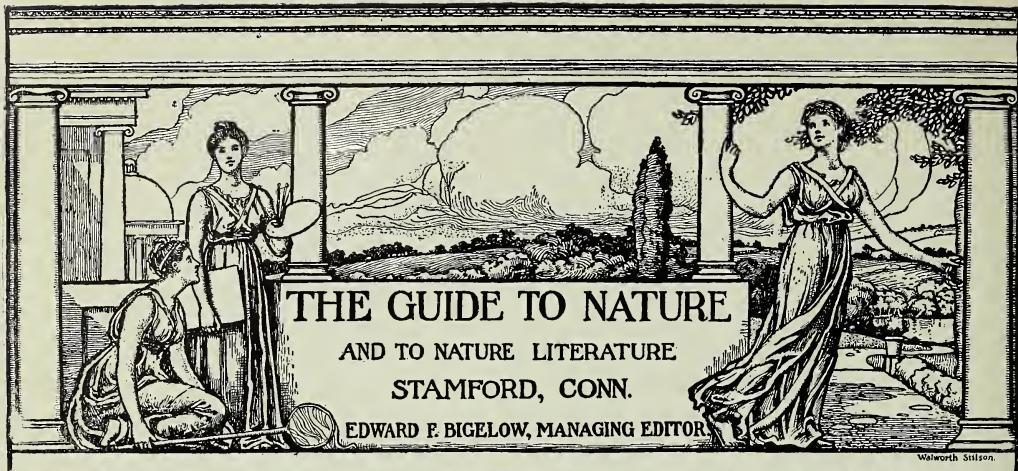
Ah! is it knowledge that doth breed
Inward unrest?
Doth take from common daily toil
Its welcome zest?
O Nectar Gatherer, must we,
For wings, forego
The thrill which loving, human hearts
Alone can know?
Then hie thee to the clover-blooms,
O Light of Wing!
Since neither pain nor loss of love
To thee can bring
Heartache or sorrow—live thy life
Griefless, care free—
Pain is my legacy from love,
O errant Bee!

—HELEN M. RICHARDSON, in *Farm Journal*.



Published by The A. I. Root Co., Medina, Ohio, U. S. A.

Entered at the postoffice, Medina, Ohio, as Second-class Matter.



THE SPIRIT OF "THE GUIDE TO NATURE."

It is the mission of "The Guide to Nature" to draw the reader toward an appreciation of the beauty and value of natural objects and away from artificial objects to the domain of wild nature; to arouse the listless student to activity and zeal in the study of nature.

Even to the most enthusiastic of us who study and love nature, there come times when, after we have "wandered away and away with Nature," we can sympathize with what Longfellow said of Agassiz, that

. . . "the way seemed long
Or his heart began to fail."

It is at such times that "The Guide" will inspire to greater efforts and encourage every student by telling of the faithfulness, zeal, and success of others. We all need good cheer from fellow-workers. Much of our inspiration is, "Omne vivum ex vivo," which freely translated means, "We are inspired and cheered by a friend." "The Guide" will be a leading, enticing, cheering, encouraging friend to students and lovers of nature.

The manufacturers of a certain "talking machine" advertise extensively that it "saves theater money." The publishers of "The Guide to Nature" can excel that by at least one point, and may well advertise that it "saves theater desire"—makes the theater expense wholly uncalled for, and that, too, in the best way, not in substitute on a small scale, but an excelling on a larger and better point of view.

There is no entertainment, no interest, no education, no resource equal to nature when rightly viewed. "The Guide to Nature" directs you to that view.

You who find entertainment and interest in honey-bees need no further argument. You are of the right mental make-up to understand all I would say if I wrote volumes on nature as a recreation. All you need to do is to send \$1.50 for a year, or 15c for a single copy.

EDWARD F. BIGELOW, Editor of "Guide to Nature,"
Stamford, Connecticut.

C. H. W. WEBER

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Dear Sir:—Bee-supplies to hand. Let me congratulate you on your work. This is my first business with you, and I like your promptness. I find freight less and time saved by ordering from you. Enclosed find check for \$2.58 to pay freight charges.

*Yours truly, W. J. COPELAND, M. D.,
Fetzer-ton, Tenn.*

Dear Sir:—The bee-supplies ordered from you arrived in due time, and good condition. Am well pleased.

*Yours truly, CHAS. T. DOWNING,
Rt. 7, Lexington, Ky.*

WANTED. Amber, light, and dark southern extracted honey. State quantity, style of package, and lowest price expected delivered in Cincinnati. Mail Samples.

C. H. W. WEBER

Office and Salesroom, 2146-2148 Central Ave.
Warehouse, Freeman and Central Avenue.

CINCINNATI,

..

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OHIO

Honey Markets.

The prices listed below are intended to represent, as nearly as possible, the average market prices at which honey and beeswax are selling at the time of the report in the city mentioned. Unless otherwise stated, this is the price at which sales are being made by commission merchants or by producers direct to the retail merchant. When sales are made by commission merchants, the usual commission (from five to ten per cent), carriage, and freight will be deducted, and in addition there is often a charge for storage by the commission merchant. When sales are made by the producer direct to the retailer, commission and storage, and other charges, are eliminated. Sales made to wholesale houses are usually about ten per cent less than those to retail merchants.

EASTERN GRADING-RULES FOR COMB HONEY.

FANCY.—All sections well filled, combs straight, firmly attached to all four sides, the combs unsouled by travel-stain or otherwise; all the cells sealed except an occasional one, the outside surface of the wood well scraped of propolis.

A No. 1.—All sections well filled except the row of cells next to the wood; combs straight; one-eighth part of comb surface soiled, or the entire surface slightly soiled; the outside surface of the wood well scraped of propolis.

No. 1.—All sections well filled except the row of cells next to the wood; combs comparatively even; one-eighth part of comb surface soiled, or the entire surface slightly soiled.

No. 2.—Three-fourths of the total surface must be filled and sealed.

No. 3.—Must weigh at least half as much as a full-weight section.

In addition to this the honey is to be classified according to color, using the terms white, amber, and dark; that is, there will be "Fancy White," "No. 1 Dark," etc.

NEW COMB-HONEY GRADING-RULES ADOPTED BY THE COLORADO STATE BEE-KEEPERS' ASSOCIATION.

NO. 1 WHITE.—Sections to be well filled and evenly capped except the outside row, next to the wood; honey white or slightly amber, comb and cappings white, and not projecting beyond the wood; wood to be well cleaned; cases of separated honey to average 21 pounds net per case of 24 sections, no section in this grade to weigh less than 13½ ounces.

Cases of half-separated honey to average not less than 22 pounds net per case of 24 sections.

Cases of unseparated honey to average not less than 23 pounds net per case of 24 sections.

NO. 1 LIGHT AMBER.—Sections to be well filled and evenly capped, except the outside row, next to the wood; honey white or light amber; comb and cappings from white to off color, but not dark; comb not projecting beyond the wood; wood to be well cleaned.

Cases of separated honey to average 21 pounds net per case of 24 sections; no section in this grade to weigh less than 13½ ounces.

Cases of half-separated honey to average not less than 22 pounds net per case of 24 sections.

Cases of unseparated honey to average not less than 23 pounds net per case of 24 sections.

NO. 2.—This includes all white honey, and amber honey not included in the above grades; sections to be fairly well filled and capped, no more than 25 uncapped cells, exclusive of outside row, permitted in this grade; wood to be well cleaned, no section in this grade to weigh less than 12 ounces.

Cases of separated honey to average not less than 19 pounds net.

Cases of half-separated honey to average not less than 20 lbs. net per case of 24 sections.

Cases of unseparated honey to average not less than 21 lbs. net per case of 24 sections.

INDIANAPOLIS.—Jobbers are fairly well stocked, but very little honey is being offered by producers. Best grade of extracted honey is in good demand, but comb honey is finding slow sale. Jobbers are offering the following prices, delivered here: No. 1 and fancy comb, 15 to 17; extracted white clover, 8 to 9; amber, in barrels, 6 to 6½. Beeswax, 28 cts. cash or 30 in exchange for merchandise.

WALTER S. FOUDER,
Indianapolis, Ind.

PHILADELPHIA.—The call for both comb and extracted honey has fallen off considerably in the last two weeks. Quite a few job lots on the market, which parties will sell at almost any reasonable offer. This makes the prices very unsteady. We quote: Fancy white comb honey, 17 to 18; No. 1, 15 to 16; amber, 13 to 14; extracted honey, fancy white, 8 to 9; amber, 6 to 7. We do not handle on commission.

W. M. A. SELSER,
April 24. 10 Vine St., Philadelphia, Pa.

LIVERPOOL.—The market for honey and beeswax is steady and quiet. We quote honey, Chilian, 4 to 6½ cents; Peruvian, 3½ to 5½; California, 7½ to 9; Jamaican, 4 to 5½; Haiti, 6½ to 6½. Beeswax is very firm—African, 30 to 32; American, 30 to 33; West Indian, 29 to 32; Chilian, 30 to 36; Jamaican, 34 to 35.

TAYLOR & CO.,

7 Tithebarn St., Liverpool.

SAN FRANCISCO.—The market is almost bare of first-class old-crop offerings of comb honey, and the little that has been gathered of the new crop does not appear in this market. We quote: Comb, water-white, 16 to 17; white, 15; water-white, extracted, 8 to 8½; light amber, 7 to 7½; dark amber and can-dried, 5½ to 5¾. *Pacific Rural Press*, May 16.

ST. LOUIS.—The honey market is very quiet. There is absolutely no demand for comb honey. Extracted honey is also neglected, consequently the prices have declined. Quote as follows: Fancy white comb honey, 15 to 16; No. 1, white and amber, 12 to 14; broken and defective, less. Extracted white, in cans, nominal at 8 to 8½; amber, 7 to 7½; in barrels, 5½ to 6; granulated extracted honey sells at less. Beeswax, 29 for prime; impure and inferior, less.

R. HARTMANN PRODUCE CO.,

May 11. St. Louis, Mo.

ZANESVILLE.—So light is the demand for honey at the present time that it is almost useless to quote the market. Stocks are pretty well reduced, and there is a tendency to cut prices, especially on the part of one-horse dealers. While the remnant of last year's crop is moving very slowly, some revival is anticipated with the arrival of the new crop. For good quality beeswax I offer 30 cts. in exchange for bee-supplies. Wax wholesales at 40 to 45.

EDMUND W. PEIRCE,

Zanesville, O.

BUFFALO.—There has been no change in the price of honey since last quoted. The demand is fair for pure white comb and good No. 1 buckwheat comb. We think that about all the honey in the market will be cleaned up before the new crop is ready.

W. C. TOWNSEND,

Buffalo, N. Y.

CINCINNATI.—The market on extracted honey is light. We quote light amber in barrels at 6½; California white sage, 9½; practically no demand for comb honey. Beeswax sells at 33.

C. H. W. WEBER,

Cincinnati, O.

May 23.

KANSAS CITY.—We have nothing to quote in the way of comb honey; but we quote extracted white at 7½. Beeswax, 25 to 27.

C. C. CLEMONS & CO.,

Kansas City, Mo.

May 9.

CHICAGO.—The honey market is without volume—no special change in price of either comb or extracted. Much of the extracted from Utah will be unsold when this year's crop is harvested unless it is sold to bakers. Beeswax is steady at 30.

R. A. BURNETT & CO.,

Chicago, Ill.

May 9.

SCHENECTADY.—We have had a few calls for dark extracted honey from manufacturers, but did not have any stock on hand. Of course, they will not pay fancy prices. Nothing is doing in comb honey.

CHAS. MACCULLOCH,

Schenectady, N. Y.

May 9.

BOSTON.—White comb honey, fancy, 17; No. 1 white comb honey, 16; white extracted honey, 10; light amber, 9; amber, 8. BLAKE-LEE CO.,

April 10. 134 State St., Boston, Mass.

ST. PAUL.—Receipts are very light; demand moderate and prices steady. The prices below represent those obtained for shipment in small lots: Fancy white-clover comb, new, per lb., 18; fancy California, 24 combs per case, \$4.00; strained, in 60-lb. cans, per lb., 10. W. H. PATTON, Sec. Board of Trade, April 22.

St. Paul, Minn.

DENVER.—The market on comb honey is slow, and prices are declining. We quote to our trade, No. 1 white, per case of 24 sections, \$3.00; No. 1 light amber, \$2.85; No. 2, \$2.70; extracted, white, 8 to 9; light amber, strained, 6½ to 7. We pay 25cts. for clear yellow beeswax delivered here.

THE COLORADO HONEY-PRODUCERS' ASSOCIATION,

April 22. F. RAUCHFUSS, Mgr.

FROM "THE NOBLEST ROMAN OF THEM ALL."

YOU know Him, and what He is to the Bee Business.

SEE

DR. O. M. BLANTON

in a

READ

what he has to say
of it:



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MUTH IDEAL BEE-VEIL.

GREENVILLE, MISS., May 1, 1908.

In regard to your Ideal Bee-veil, must say it is admirable as a protector from bee-stings, and a perfect ventilator. Could not do without it.

Yours truly,

O. M. BLANTON.

**Who Knows Best the Value, Convenience, and
True Worth of a Muth Ideal Bee-veil?**

THE MAN WHO WEARS THE VEIL!

It is the neatest, quickest-adjusted profanity-preventing bee-veil ever placed on the market. It makes good every minute of every hour of every day it is worn; and it hasn't any rival within hearing distance. That's the undiluted truth!

There's about four dollars' worth of comfort and convenience packed into this strong, simple, 75-cent veil. That's all you pay for it—and we furnish postage too. We're selling them by the hundreds, day in and day out. The fine wire netting—you can smoke with the veil on—and the bee-proof apron tying tight about the body, above the waist, makes the

MUTH BEE-VEIL BETTER THAN THE REST.

Tried the rest? Why not try the best?

THE FRED W. MUTH COMPANY
51 WALNUT STREET The Busy Bee-men CINCINNATI, OHIO

GLEANINGS IN BEE CULTURE

Established
1873.
Circulation
32,000.
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Semi-
monthly.

Devoted to Bees, Honey, and Home Interests.

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The Hand System

TO satisfy a number of customers we are now making hives to suit the above system, just as the inventor himself uses them. These are not listed in our regular spring catalog, and are not kept in stock at any of our agencies. All orders will be filled from Medina. If ordered early enough, however, they can be forwarded to any one of our branches for redistribution. If you are going to try a few of these hives the coming season, we earnestly urge you to order early before the rush season comes on.

PRICE LIST OF HAND DIVISIONAL HIVE AND PARTS.

We have had numerous calls for divisional hives just as Mr. Hand uses them. We will not list them in our catalog for the coming season, but will make them up to supply, on special order, to those who desire to try them, at prices in table below. The outside dimensions being nearly the same as the regular Dovetailed hive, the regular covers and bottoms may be used.

Designating or Short Name	Nailed and Painted Each	In Flat		
		Each	Five	Weight of 5
Hand brood or extracting section, including the frames, springs, clamps, and nails; no foundation	Hand 8-8	\$ 65	\$ 50	\$ 2 25
Hand brood or extracting section, including the frames, springs, clamps, and 1-inch foundation starters.....	Hand 8 10	70	55	2 50
Hand brood or extracting section, including the frames, springs, clamps, and full sheets comb foundation.....	Hand 9-8	75	60	2 50
Hand comb-honey section, including section-frames, and fences; no sections or foundation starters	Hand 9-10	80	65	2 75
Hand comb-honey section, including section-frames, and fences, sections, and full sheets foundation	Hand 0-8	1 30	85	4 00
Hand comb-honey section, including section-frames, and fences; no sections or foundation starters	Hand 0-10	1 40	95	4 50
Hand four-section hive including two brood and two comb honey sections; no sections or foundation starters	Hand 2-8	75	60	2 75
Hand four-section hive including two brood and two comb honey sections with sections and full sheets foundation	Hand 2-10	80	65	3 00
Hand comb-honey section, including section-frames, and fences, sections, and full sheets foundation	Hand 1-8	1 45	1 00	4 75
Hand four-section super, no inside fixtures, including clamps and flat tins.....	Hand 1-10	1 55	1 10	5 25
Hand four-section super, no inside fixtures, including clamps and flat tins.....	HandCE8822-8	3 50	2 65	12 00
Hand four-section super, no inside fixtures, including clamps and flat tins.....	HandCE8822-10	3 75	2 90	13 25
Hand four-section super, no inside fixtures, including clamps and flat tins.....	HandCE0011-8	6 30	4 25	20 00
Hand four-section super, no inside fixtures, including clamps and flat tins.....	HandCE0011-10	6 75	4 70	22 25
Hand section-frame, 4½x17½x1½; ends, 1½x½; top, ½x¾; bottom, ½x½	Hand Super-8	40	30	1 25
Hand section-frame, 4½x17½x1½; ends and top, 1½x½; bottom, 1½x¾	Hand Super-10	43	32	1 35

Hand brood frames, 4½x17½x1½; ends, 1½x½; top, ½x¾; bottom, ½x½

Hand section-frames, 4½x17½x1½; ends and top, 1½x½; bottom, 1½x¾

Hand fences, 4½x17½ P style

\$2.00 per 100 in flat; \$18.00 per 1000

2.50 " " 22.00 "

1.75 " " 16.00 "

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If you wish to secure a good harvest of surplus honey you should have your supers on hand and ready to put on the hives when the honey-flow begins. We have a complete stock of Supers, Sections, and Foundation on hand, and can supply your wants promptly. Send postal for price list of

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GLEANINGS IN BEE CULTURE

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RIDPATH'S HISTORY OF THE WORLD.

Most people who like to read at all are pleased with a well-written history. It is, therefore, a pleasure for us to state that a famous historical work, "Ridpath's History of the World," is within the grasp of all readers of GLEANINGS, even those of somewhat limited means (see page 723 of this issue). Our idea is, a good many will avail themselves of the offer made by the Western Newspaper Association, even in these somewhat panicky times, and in a presidential year when political news is at a premium. Rural dwellers where books are scarce will find this set a perfect storehouse of historical information. Many a leisure hour may be profitably spent in reading them; and one who reads with care will soon possess the foundation of a liberal education at a very small cost. Any one who reads this work might pass for a person of superior education. Ridpath's is a history of great value, well written and easily understood. Nothing will more quickly broaden a man's or woman's intellect than a careful study of history, more especially world history. He or she is bound to study geography, ancient or modern, and in this way they become sympathetic with all that goes on all over the world.

ELECTRIC HANDY WAGON.

There are few more useful things on a farm than a Handy wagon. It will stand an immense amount of wear and tear under very trying conditions; besides, it is easy to load and unload as compared with a high wagon. One of the pioneers in this line of manufacture is the Electric Wheel Co., of Quincy, Ill., doing an immense business in constructing wagons and wheels, and whose advertising has appeared in these columns for a long time without a word of complaint. They make a specialty of supplying wheels to farmers and others who desire to change over their high wagons to low-down. Being all steel these wheels are much more satisfactory than wooden ones, and it would pay many to change on account of the saving in repair-bills. Steel wheels will last a lifetime, and give the greatest of satisfaction all the while. Many steel-wheeled wagons are in use in tropical countries with a heavy rainfall, where wooden ones do not last long, and many are in use in dry arid countries such as Mexico and Egypt, and in both cases the electric steel wheel is a winner. They are made of enormous strength, so that one may literally move a house on a set of them, and, as a matter of fact, traveling houses for lodging men and other purposes do use them. To many of our readers who are users of wagons we can do better than to ask them to write to the Electric Wheel Co., box 95, Quincy, Ill., asking for further particulars.

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WRITE FOR THE BOOKLET TO-DAY.

THE SAVINGS DEPOSIT
BANK COMPANY

MEDINA, OHIO

A. T. SPITZER, Pres. A. I. ROOT, Vice-pres.
E. B. SPITZER, Cashier.

“Please Rush My Order.”

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And we are going to do it.

We have four great railroad systems and three express companies to help us. They reach out in every direction. We also have the goods, an immense stock, and all "Root Quality." Send for catalog.

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market.

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**NATIONAL
BISCUIT COMPANY**

Purchasing Department,
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Wanted to contract for 20,000 lbs. comb honey in shallow extracting-frames 5½ inches deep.

Requirements: Honey to be produced on full sheets of extra-thin super foundation, in shallow extracting-frames, not wired.

Grade: Same as first three grades in GLEANINGS grading-rules—Fancy, A No. 1, and No. 1 (all included as one grade).

Quality: Honey must be produced from clover, basswood, or raspberry.

Combs must be even and of uniform thickness—not over one inch.

Will furnish frames, shipping-cases, and carriers for re-shipping the honey.

Bee-keepers in Michigan or Ohio interested in this proposition, write, stating approximate number of frames you can furnish, and price wanted for the honey per pound, *net weight*, F. O. B. Medina.

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HONEY BUYER,
c/o GLEANINGS IN BEE CULTURE,
Medina, Ohio.

WE WILL BUY AND SELL

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of the different grades and kinds.

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NEW YORK HONEY-BUYERS.

We wish to speak a word in season in behalf of an old reliable honey-buying firm which we have known for a good many years, but which our more recent readers may not be acquainted with. We refer to the house of Hildreth & Segelken, 82 to 86 Murray St., New York, who have been buying and selling honey for a generation. They make a specialty of table honey for bottling, and sell large amounts of clover, tupelo, California sage, and other nice honeys, to the grocery trade. Being situated right in the largest honey-buying center in the world they are able to dispose of large quantities. New York is accessible to honey-shippers in all parts of the country and to the West Indies, Mexico, and South America.

WHERE SHALL WE SELL HONEY?

Many of our readers are nonplussed when they attempt to sell their honey if it happens to be a little off-grade or of a kind that is not much esteemed in the local market. It is, therefore, a pleasure for us to say we have had advertising with us the National Biscuit Co., of Chicago, for some time, which is always ready to purchase just such honey at market prices. Many of our Southern friends who live far from the large manufacturing cities would find Chicago a more reliable and a more prompt market than one much nearer, but a slow buyer at low prices. We therefore cordially advise those of our readers who have any difficulty in disposing of their honey to correspond with the National Biscuit Co. You will find the complete address in their advertisement on page 673 of this issue. It is almost unnecessary to say that, financially, they are all "O. K."

THE UNIVERSITY OF MICHIGAN.

Any young man or woman who contemplates a professional career may be interested in the advertisement of the medical department of the University of Michigan at Ann Arbor. It will be found on page 712 of this issue. Some of our readers may not know that this university has enrolled in all its departments nearly 6000 students. The course of instruction is of the best, and its graduates occupy high positions all over this country. The medical school is presided over by Professor W. B. Hinsdale, M. D., a medical man of national reputation. The University of Michigan is famous for its kindly treatment of poor students making their way against odds, and, as a matter of fact, it is not a place for rich men's sons with plenty of

spending money and little desire to educate themselves. For the farmer's boy it is ideal.

THE BEST LIGHT.

We do not know of any thing that adds more to the attractiveness of a modern home than a first-class light in every room. It makes day out of night, and adds very materially to the comfort of the inmates by allowing them to use the evening hours for work, reading, and recreation. Many imagine it is only the city folks who can enjoy such advantages; but as a matter of fact the rural dweller can enjoy them equally well as the citizen. Many do. The Best Light Co., of Canton, O., has solved the problem by their great lamps advertised in another column in this issue. One of these in any ordinary room will fill it with an effulgence that is elevating and cheerful. It should not be forgotten that they are not expensive, either to buy or to operate. They do not cost any more than an ordinary lamp, and are actually cheaper to maintain than kerosene lights. Write and see.

NOTICE TO QUEEN-BUYERS.

Several queen-breeders have written to say they are having trouble with some of their customers who seem to be in doubt as to what constitutes an untested queen. They somehow or other have obtained the idea that an untested queen is a virgin. This is not the case. An untested is a laying queen whose progeny have not been observed to see if they are purebred. Generally they are purebred, but sometimes not, in which case the workers will be hybrids. A tested queen is one whose progeny are purebred, both worker and drone. An untested queen may have pure drones, and yet the workers from her are mixed. Unmated queens are seldom sent out.

BANKING MONEY BY MAIL.

Perhaps some of our readers may not be aware of the fact that the Savings Deposit Bank Company, which is one of our steady advertisers, does a business which extends from the Atlantic to the Pacific. It does not do a vast business like a city bank, but many prefer it because it is more secure. Country banks are safer because their investments are more reliable and solid; whereas stocks and bonds fluctuate very much in value. If your local bank is not very secure, or does not pay a fair interest on deposits, we think you can not do better than to correspond with the officers of the Savings Deposit Bank Company. They pay a very liberal rate on all deposits.

LISTEN!

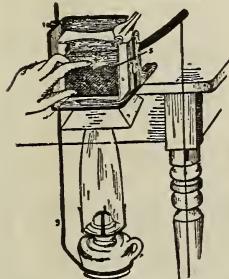
DO YOU HEAR THOSE BEES
WORKING?

Soon they will want room or will swarm.

Have you gotten your hives and supplies? If not, send your order at once. If you have The A. I. Root Co.'s catalog you can order from it. We sell their goods at their factory prices. We can fill your orders promptly now. Write for further information and our 40-page catalog.

JOHN NEBEL & SON SUPPLY CO., HIGH HILL, MONTG. CO., MISSOURI.

RAUCHFUSS PATENT
COMBINED SECTION-PRESS AND
FOUNDATION-FASTENER.



Used by the largest comb-honey
producers.

Successful Co-operation

means to the Bee-keeper:—The buying of the best Bee-supplies obtainable at the closest prices, and marketing of his products to the best advantage. Our association is co-operative, and organized for this purpose. We carry a large stock of high-grade goods such as:

G.B.Lewis Co.'s Root's Dadant's
Hives and Sections Smokers and Extractors Comb Foundation

Send to-day for our free 48-page Illustrated Catalog.

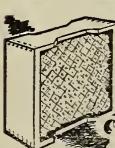
The Colorado Honey-Producers' Ass'n
1440-1444 Market Street Denver, Colorado

BEE KEEPING

will be a profitable
industry this season.

Honey is high—short crop last year. The shortage of the honey crop for 1907 in the United States warrants bee-keepers to increase their colonies. About a half crop was produced, and in California, where the cheap honey comes from, only a quarter of the average crop was produced.

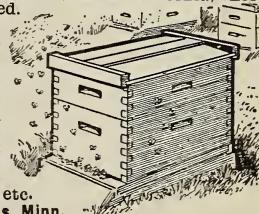
Get Ready Now for More Honey



Let us send you our catalog. We are manufacturers and sell only our own make of bee-supplies. Minneapolis is the largest lumber-distributing point; the Mississippi river furnishes us power, and our organization and labor conditions are the best for economical production. Send us an estimate of your requirements and let us give you prices. We have a large stock of standard bee-supplies on hand.

Dovetailed Hives, Sections, Section-holders, Separators, Brood-frames, Comb Foundation, Smokers, Extractors, Shipping-cases, etc.

MINNESOTA BEE SUPPLY COMPANY, 23 Nicollet Island, Minneapolis, Minn.



This Coupon worth 25 Cents!

If not now a subscriber and you want one of the most helpful aids to successful bee-culture—a paper that tells how to make your bees pay—you should subscribe for the

AMERICAN - BEE - JOURNAL

A 32-page illustrated 50-cent monthly. It tells all about the best way to manage bees to produce the most honey; with market quotations, etc. A dozen different departments—one for women bee-keeper. . . . Best writers.

It will increase your Honey-money!

If you will send us your name and address with 25 cents (stamps or coin) together with this coupon, we will send you a trial trip of our journal for 12 months. Order now, and let us begin with this month's fine number. Address

American Bee Journal, 118 W. Jackson, Chicago, Illinois

New Subscribers Only.

Name.....

Postoffice.....

State.....

THE SEASON FOR

I

Hives

II

Sections

III

Foundation

IV

Inside
Fixtures

V

Bees and
Queens

VI

Veils and
Smokers

THE A. I. ROOT COMPANY
 SYRACUSE :: :: :: NEW YORK

TO THE
BEE-KEEPERS
 of CANADA.

WE are pleased to say that we are able to offer, in Canada, goods manufactured by The A. I. Root Co. While we do not offer every thing listed in their catalog, we have selected such articles as we believe will best meet the wants of the Canadian bee-keepers.

The heavy duty and freight charges we have to pay make it impossible for us to sell in Canada at Root's prices. We have, however, made prices as low as possible, and in no case do we charge nearly as much extra as the amount of freight and duty we ourselves have to pay on the goods.

We would ask you, when comparing our prices with those of other dealers, to take into consideration the QUALITY. If you do so we feel satisfied that you will place your order with us. The splendid quality of the material sent out by The A. I. Root Co. has given "Root's Goods" a world-wide reputation. Remember, "The best is cheapest."

E. GRAINGER & COMPANY
 Deer Park, Toronto, Ontario, Canada
 Canadian agents for The A. I. Root Co., Medina, O., U.S.A.

APICULTEURS

des pays de langue Francaise
 Nous vous informons que.

L'Apiculture Nouvelle

Revue mensuelle illustree,

est tiree de:

Gleanings in Bee Culture

augmentee et completee par des collaborateurs
 Europeens, reconnus comme Apiculteurs eminents.

L'abonnement d'un an est envoye franco pour
 tous pays de l'Union Postale, contre l'envoi par
 mandat poste de frs. 6.50 ou \$1.30.

Un numero specimen, ainsi que notre catalogue
 francais de tous les articles de la

A. I. ROOT CO.

est envoye gratuitement sur simple demande,
 adressee a

Emile Bondonneau,

Agent General pour l'Europe et les Colonies

de A. I. ROOT CO.,

142 Faubourg Saint Denis 142, Paris (10e),
 France.

L'édition Francaise de l'A B C de l'Apiculture
 est egalement parue.

THE JUNE REVIEW

Starts out with an article from Mr. Elias E. Coveyou, in which he tells how to get the honey off the hives in a wholesale way, yet so manages as to

KEEP IT WARM

for extracting. He also illustrates and describes a most excellent uncapping-box, together with his eight-frame automatic extractor, driven by a gasoline-engine.

Mr. C. W. Dayton of California, takes up the matter of uncapping honey, handling it in a scientific manner, and describing three

RADICALLY DIFFERENT STYLES.

When to hold honey for higher prices, and when it is

BETTER TO SELL

than to wait, are vital questions, and hard to answer, but Mr. M. V. Facey, in his article this month, really furnishes the key whereby they may be solved.

Send ten cents for the June issue, and with it will be sent two other late but different issues, together with a

SPECIAL OFFER

showing how the Review may be obtained for this year and next at a very low price. The ten cents sent may apply on the subscription, if one is sent later.

W. Z. HUTCHINSON, Flint, Mich.

And Still They Come

The following letter from one of our customers demonstrates in his own words the satisfaction our customers receive. Remember this is only one of the many thousands we receive.

Griggs Bros., Toledo, O.:—I received the hives and supplies to-day, which is the quickest I ever got goods after ordering. They must have come over in the Knaben shoe's airship. They certainly are in fine shape—utterly impossible for any thing to have got lost.

Your shipping-clerk had them packed to perfection. Respectfully, HUGH RICHARDSON, Wood Co., O.

We should be pleased to list you as one of our customers if you are not one already. Bear in mind we handle ROOT'S GOODS exclusively, not the cheap shoddy stuff which others are trying to palm off under the pretense that it's "as good as ROOT'S." Try ROOT'S and you will be convinced. TOLEDO is the place to buy; we save our customers annually thousands of dollars in FREIGHT.

A complete line of Incubators and Poultry Supplies listed in our free catalog. Send for one.

Honey and Beeswax wanted in exchange for supplies.

Special

200 cases of 60-lb. cans, good as new, at 50 cents per can. Special prices in quantities.

The Griggs Bros. & Nichols Co.
523 Monroe St. .. Toledo, Ohio

PITTSBURGH for ROOT'S BEE-SUPPLIES Headquarters at factory prices.

Also Poultry and Dairy Supplies, Seeds, and Pet Stock.

Get our catalog and prices.

Stapler's Seed Store 412-414 Ferry St. Pittsburgh, Pa.

Honey-cases for Sale. Price 30 cts. per case. Two cans to the case. Both cans and cases in A-1 condition. For lots of 100 or more write us for Michigan White-Clover Honey Co., Detroit, Mich. price.

WESTERN Bee-keepers

... will ...
SAVE TIME AND FREIGHT

by ordering ROOT'S GOODS
from Des Moines, Iowa.

Complete NEW STOCK now on hand. Our stock includes a full line of Danzenbaker hives and all other up-to-date goods.

Remember we sell at Root's factory prices, and offer liberal discounts now.

Estimates cheerfully given. Send us a list of your wants, and get our net prices by letter.

Our 1908 catalog is now ready to mail. Write for it to-day. Address

JOS. NYSEWANDER
565-7.W. 7th St., Des Moines, Ia.

SACKETT WRAPPERS

(Transparent) FOR COMB HONEY
NOW BEING USED BY LARGE PRODUCERS

Makes section look more attractive, and increases selling price. Any one can apply it and get 2 to 4 cents more per pound, and it costs you only a fraction of a cent per section.

Price \$3.25 per thousand sheets,
printed with name and address.

Samples free. Special prices on quantities.
H. A. SACKETT, 147 W. 26th St., N. Y. City

CUTS USED IN THIS MAGAZINE
ARE FROM
THE MUGLER ENGRAVING CO.
MUGLER BLDG. CLEVELAND, OHIO.

Wintering Bees in Danz. Hives

FALL RIVER, MASS., April 10, 1908.

F. Danzenbaker:—Kindly send booklet about your smoker as per your ad. in GLEANINGS, current issue, and for which I thank you in anticipation. I had ten hives, average good, last fall; now I have five that survived, and in Danzenbaker hives, and as I write they are lugging in pollen in good shape. Yours, H. N. BRIGHTMAN, Fall River, Mass.

(The defunct bees were in ten-frame Langstroth.)

Pretty good! five Danz. lived, five L. died.

F. DANZENBAKER, Patentee.

What's the Matter With Hilton?

WHY!

He has got his new goods fresh from The A. I. Root factory, and his 1908 catalog, and wants you to send for one free—40 pages illustrating and describing Root's goods at Root's prices. Send him a list of what goods you want, and let him tell you how much they will cost you.

Cash or supplies for beeswax at all times.

GEORGE E. HILTON
FREMONT, :: :: MICHIGAN

Furnishing Bees and Supplies to Bee-keepers has been our business for 15 years.

NEW YORK CITY

where our supply business is located, means quick shipments and low freight rates to our customers. Our prices are f. o. b. cars here, Colony of Italian bees in an 8-frame D. T. hive, complete..... \$9.00 Italian queens..... 1.00
Carriage free.

I. J. STRINGHAM,
Apiaries, Glen Cove, L.I. 105 Park Pl., N Y City.

Northwestern Bee-keepers!

We are headquarters for the ROOT supplies for the States of Montana, Minnesota, the Dakotas, and Western Wisconsin.

You can save freight by ordering from this branch. A complete line of bee-keepers' supplies always in stock.

Secure a catalog at once.

BEES and QUEENS.—Your orders will be attended to.

The A. I. Root Company

H. G. ACKLIN, MANAGER

1024 Mississippi Street, St. Paul, Minn.

1884

1908

Root's Goods always in stock

FOR YOU

Twenty-two successful years manufacturing bee-supplies and raising Italian bees and queens.
Root's Goods in Stock.

J. M. Jenkins
Wetumpka, :: :: Alabama

Dittmer's COMB FOUNDATION

is the best, not because we say so, but because the bees prefer it to other makes.

Dittmer's Process is Dittmer's

It has built its reputation and established its merits on its own foundation and its own name.

We make a specialty of working wax into foundation for cash.

Write for free catalog, and prices on full line of supplies.

GUS. DITTMER CO., Augusta, Wis.

Hammer Free!

With Every Order of Supplies of \$5.00 or Over.



This is the handiest tool for nailing up hives, frames, and all parts, or for opening up hives. Made of steel, nickelated.

Three per cent discount off all prices in catalog.

FULL LINE OF ROOT'S GOODS

NO CHARGE FOR DRAYAGE.

John N. Prothero
Dubois, .. Pennsylvania

THE DANZENBAKER SMOKER

PAT. OCT. 3, '06, JUNE 4, '07

GOLD MEDALS

St. Louis Exposition, 1904
Jamestown Exposition, 1907



IS THE BEST,
STRONGEST,
COOLEST,
CLEANEST,
CHEAPEST,
AND LARGEST
SMOKER SOLD
FOR A DOLLAR

The perforated side grate seen above holds a removable, metal, asbestos-backed fire shell, preventing burning the tin off the outer case, and deflects the air at right angles, preventing back draft to the valveless bellows. The air, passing to the back and over the top, cools and expels the smoke, fanning the burning fuel at top or side till all consumed, giving cool smoke for hours from one filling. It can't clog. No top-heavy cap to choke with soot: no valve to fail; no holes shedding sparks or hot ashes.

Four years' sales prove its success beyond a doubt, expensive dies making it uniformly perfect as possible to devise. We confidently guarantee full satisfaction or refund the price.

Price, \$1.00; 3 for \$2.50; by mail, add 25c. each

Send address of yourself and Bee friends for 8-page leaflet on "Smoker," and facts about Bees and Queens, 80 pages, free.

F. DANZENBAKER, Norfolk, Va.

At St. Louis

On a Line

to all points in the South and Middle West.

Send for our free illustrated catalog of
Root's Bee-supplies

We sell at factory prices.
Send us a trial order.

Beeswax Wanted.

Blanke & Hauk Supply Co.

DEPT. B.

1009-11-13 Lucas Ave. St. Louis, Mo.

Manufacturers and Jobbers of Dairy, Creamery, Ice-cream, and Poultry Supplies.

North Texas

Bee-keepers

will find Dallas the best point from which to purchase supplies. We have a carload of **ROOT'S GOODS IN STOCK**, and sell them at the Factory Prices. Don't forget that we can furnish any thing in the way of Field or Garden Seeds, Plants, and Poultry Supplies. Our large illustrated catalog for 1908 free on application. Mention GLEANINGS when you write.

TEXAS SEED AND FLORAL COMPANY

Dallas, : : . Texas

"If goods are wanted quick, send to Pouder."
Established 1889.

CONFIDENCE.

By the Bee Crank.

Personal confidence is based, not upon a man's character, but upon his reputation, and his reputation is simply the guess of the other fellow at the character back of it.

I have been in the Bee-supply business for nineteen years. During all of that time I have never forgotten for one minute that most of the folks who deal with me are too far away to learn much about my character; but they are all close enough to form a very clear idea about my reputation. That's why I'm as particular about little things as big ones—they all have a bearing on my reputation, and my reputation is my most valuable business asset.

When you buy supplies from me you have nineteen years of reputation-building back of the smallest item. I use care in filling orders, care in checking them over to avoid mistakes, care in packing, and care in shipping. That's the way I turn



transient customers into permanent ones. They all appreciate these things, and many of them tell me so.

Just now my warerooms are full of seasonable needfuls for the bee-man—nice, fresh, clean new goods ready for quick delivery. I sell Root's goods at Root's prices, and have a large supply of hives, sections, foundation, smokers, and everything that is used in the bee-yard. Everything standard size and make, and the kind that so many have striven to imitate. My catalog tells all about them. Send for it.

I need beeswax—have a market for all I can get, and will pay highest market price, cash or in exchange for supplies.

HOOSIER-ITALIAN queens now ready. Untested, 75 cts.; select untested, \$1.00.

SHAWNEETOWN, ILL., May 15, 1908.
 Walter S. Pouder, Indianapolis, Ind.

Dear Sir:—The goods ordered a week ago came promptly and in good condition. The order was for a neighbor who asked me to refer him to a reliable supply-dealer, and I recommended you. He is much pleased with his goods. Truly yours, JESSE E. DAVIS.

Walter S. Pouder,
513-515 Massachusetts Avenue, Indianapolis, Ind.

GLEANINGS IN BEE CULTURE

Published by The A. I. Root Co., Medina, Ohio

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J. T. CALVERT, Business Manager

VOL. XXXVI

JUNE 1, 1908

NO. 11

STRAY STRAWS

DR. C. C. MILLER

STIMULATIVE feeding in Switzerland, as here, is esteemed differently, some finding it an advantage, others a damage.—*Schweiz. Btzg.*

AN AFTER-SWARM with a young queen issued before the prime swarm with the old queen in several cases at one of the Swiss stations.—*Annual Report*, 59.

INTERESTING to note that, in my watering-tub, the water covered by cork chips, on cool April and May days, many bees were on the cork where the sun shone, but not a bee on the shaded part.

SOME OF US who can not attend the National convention will have the sharp edge of our disappointment taken off upon learning that the report is to be taken by Geo. Angus, the man who has done such fine work taking reports at previous conventions.

G. M. DOOLITTLE, you say, p. 630, that nailed sections take "a little longer" to put together than one-piece. Don't they take several times as long? Why don't you get a good T super and have one-piece sections just as square and just as solid as nailed ones?

G. W. DEMAREE, years ago, gave a plan for extracted-honey men to prevent swarming, that is very much like the Coveyou plan, p. 640. Just before swarming time, put all brood above, leaving the queen below an excluder on foundation or empty combs. That's all.

H. M. JAMISON, p. 643, is very disrespectful to succeed with a three-inch space between top and bottom starters after my saying they would fail. But as others also succeed I must agree that I did not know as much as I thought I did. Now, what did Mr. Pryal do to his bees to make them be so naughty?

COMPARATIVE advantages of comb and extracted honey production are ably discussed in *Review* by R. L. Taylor and the editor. Both think that 50 per cent more of extracted than comb is about the fair estimate. But honey quotations in the same journal show the price for comb about 80 per cent higher than for extracted. Now, suppose my field furnishes 10,000 lbs. of comb for which I can get \$1440. If I can get 50 per cent more extracted, that will be 15,000 lbs.; but at the difference of price named it will bring me only \$1200. That difference of \$240 is not balanced by the extra expense of sections, etc. Other factors are to be considered, however, and there is no doubt that, for many, extracted is decidedly more profitable.

FICKLE though it may be to do so, I must change my mind again about strengthening a weak colony by putting over a strong one. I tried two cases this year. I used wire cloth as a precaution; but when I came to lift the upper story I found the dead queen on the excluder. Unsealed brood above showed that the queen was not killed until some time after the wire cloth was removed. [The position of the queen at the time you found her would indicate that a mortal combat had taken place through the perforations. Queens will sometimes grab each other in deadly embrace. At such times it is possible for one to sting the other. It is rare, however, that they fight through the perforated metal, and in the case cited, therefore, we would say that it was only an exception that proved the rule.—ED.]

SOMETHING I never noted before, I learned this year, May 1. On that date we went to the Wilson apiary and watched the bees at the entrance of each hive. If they flew strong, carrying plenty of pollen, we judged them queen-right. Several did not fly well, and we opened their hives. They were strong in brood and bees, but very light in honey. They showed no sign of starvation, having enough honey for immediate use. One would have supposed they were the very ones that should have been out and hustling; but the scarcity of stores seemed to have a depressing effect. Is it possible that abundance of stores in sight encourages them to greater activity in flight, just as it is believed to encourage them to greater activity in brood-rearing? At any rate I prefer my bees should have a goodly surplus of stores on hand at all times. [If we remember correctly, reports have shown just the very thing here described. We should be glad to hear from others on this point; for if it be true that colonies on the verge of starvation will not seek nectar from the fields when it is to be had, it goes without saying that it would be good policy to give all the colonies a liberal supply of food in the fall.—ED.]

REPLYING, Mr. Editor, to your question, page 622, as to combs melting down in hives surrounded by corn and dense underbrush, I may say I know of no other untoward condition that would cause such melting down except that overhead the shade from closely planted trees was so dense that the sun never shone on the hives all day long. The first intimation I had of any thing wrong was when I saw the little stream of honey running on the ground. At that time I did not have hive-entrances as large as now, or there might have been no trouble. But there was no trouble with hives that stood out where they had the advantage of any passing breeze. [We infer, then, that the cause of melting down was due to a combination of too much underbrush close to the hive, and too small an entrance. Without

the underbrush, and with such entrance, the combs would not have melted down, you say. We should infer that, had the entrance been larger, even with the underbrush, there would have been no trouble. If that be true, it goes to prove that, with a large entrance, and an Alley trap over it, there would be no breaking-down of the combs. In this we assume that the Alley trap would be the equivalent of the underbrush.

—ED.]

LOUIS SCHOLL, replying to your question, p. 629, I never had either of the troubles from wide bottom-bars that you mention. Before the first comb is taken out, the removal of the dummy makes sufficient room so that never do "the wide bars cause the bees to be rolled over the combs of the next frames." Perhaps you use no dummy. The bottom-bars do not "stick together" "when the frames do not hang quite true" because it never happens that the frames do not hang quite true. They are exactly spaced by nail spacers, and a nail in the end-bar, $2\frac{1}{4}$ inches from the bottom, makes the spacing just as true at the bottom as top. Perhaps your bottom-bars are not thus spaced. [Day before yesterday, May 14, owing to the rush of honey from fruit-bloom we found it necessary, at an outyard, to give extra room. In the case of some strong colonies having extra wide bottom-bars, we noticed that they were stuck together with great chunks of propolis so that it was difficult to pull the frames out; and as the frames were removed, a taffy-like glue stretched out in strong strings. This attaching, however, was only by the Caucasians and the Caucasians crossed with Italian blood; and if one were to use this race and their crosses he might be compelled to use both narrow end-bars and bottom-bars, and perhaps get along without self-spacing devices.—ED.]

"MUCH LABOR can be saved in the critical time of the honey-flow if there is a superabundance of supers and combs," *Review*, 151. Suppose I average one year with another a surplus of two supers per colony. Will that number in readiness be a plenty? But what if an extra good year comes? Suppose the best year in the past gave me five supers to the colony. I might call that an abundance to have in readiness, but it would take about another super to be a superabundance. Yes, I believe in superabundance, and, as a matter of fact, I generally have in readiness more than six supers to the colony. [If ever a bee-keeper feels like kicking himself, metaphorically speaking, it is when he has been so shortsighted as not to have a sufficient number of combs or supers ready for a good honey-flow. By the rush of orders that have been coming in, we imagine that the fruit-bloom this season took a great many by surprise. About every two or three years the supply-dealer and the manufacturer find themselves swamped with orders simply because bee-keepers do not or will not order in the fall, thus getting the benefit of a discount and the further advantage of having goods ready when needed. It may be said that the supply-dealer and manufacturer should have a large stock in readiness for rush orders. That may be true; but it would be impracticable to have warehouse capacity sufficiently large to take care of the exceptional seasons.—ED.]

EDITORIAL

As we go to press we are pained to learn of the death, on May 16, of Mr. D. E. Merrill, of the W. T. Falconer Mfg. Co., Jamestown, N. Y. Particulars will be given in our next issue.

MR. OREL L. HERSHISER, of 493 Woodward Ave., Buffalo, N. Y., has been recently elected to life membership in the Buffalo Society of Natural Science. This came unsought and entirely unexpected to our friend. It was due to certain lectures that he has given before that organization.

CROP REPORTS.

If we may judge by orders that have been coming in, as well as by the work of bees in our own locality, this has been a very remarkable year for fruit-bloom honey in the northern belt of States. While this honey will not reach the market, it will be the means of putting the brood-nests in fine condition for the clover flow yet to follow. The frames will be full of brood and honey, and the new flow from clover will necessarily have to be put in the supers.

The reports from other parts of the country have been quite encouraging, as a rule. Briefly, they are as follows:

ALABAMA.

Prairieville.—White clover in bloom, but weather too wet and cold.

CALIFORNIA.

San Diego.—Not very good prospects for crop along the coast. In the mountains a good crop is expected.

Surzey.—No honey, many bees dying.

Ventura.—Dry weather and frost checked the growth of sage, therefore no prospect for honey.

CANADA.

Marchurst.—Backward spring, but prospects good for clover.

ILLINOIS.

Lawrenceville.—Bees swarming early.

Royal.—Bees beginning on white clover.

INDIANA.

Madison.—Good prospects for a crop.

Huntington.—Necessary to feed to prevent starving; prospects good for white and alsike clover.

Wolcottville.—Colonies very strong.

IOWA.

Marshalltown.—Good rains; white clover everywhere; good prospects for a crop.

Kalona.—Cold weather causes great loss of field bees.

Bloomfield.—Heavy rainfall insures good white-clover bloom.

KENTUCKY.

Cornishville.—White clover abundant. Good prospect for crop.

Boyd.—Honey prospects extra good. Fine crop of alsike and white clover.

MISSOURI.

Bluffton.—Weather wet; good prospects for clover.

NEBRASKA.

Bradshaw.—Bees working in supers.

NEW JERSEY.

Frenchtown.—Weather very unfavorable for honey and brood-rearing.

NEW YORK.

Middleburg.—Weather wet, but lots of brood and young bees.

Bedford Station.—Weather cold and wet.

North Branch.—Good prospects for a crop.

OHIO.

Shanesville.—Good prospects for a crop.

Athens.—Bees swarming, and working in supers.

Belpre.—Bees swarming, and good prospects for white clover.

Akron.—Bees swarming very early.

OREGON.

Hillsboro.—Coldest spring in many years. Half the bees are dead on account of spring dwindling and starvation.

PENNSYLVANIA.

Liverpool.—Good prospects for a crop.

TEXAS.

Orange.—Good flow of excellent honey.

VIRGINIA.

Lindsay.—Good prospects for a crop.

Howardsville.—Colonies strong, but the weather is cold.

WEST VIRGINIA.

Ravenswood.—Good prospects for a crop. Bees swarming.

AN INJURY TO THE EDITOR'S EYE.

E. R. Root will be compelled to beg the indulgence of his readers for some two or three months to come, perhaps, because of an injury to the right eye. He is under orders not to read any proof or printed matter, nor manuscript, for some months to come, and to give both eyes a rest until the injured member can recover from the shock.

As a warning to others, we would say that the injury was due to looking at a strong arc light for the fraction of a second, at too close a distance. While the injury is, to a certain extent, permanent, it probably will not entirely disqualify the right eye from service after it has been given a rest. In the mean time all manuscript is read to us, and all other matter, as heretofore, is dictated. Owing to the fact that we can not use our own eyes our subscribers are requested not to pass severe judgment in case the editor should say what he does not mean, or fail to give the exact meaning he intends to convey.

But there is no great loss without some small gain. We are privileged to go outdoors, and we are now finding recreation by working with the bees, helping the boys every now and then, for the specialist does not believe that long-range vision, provided blue glasses be used, or a hasty glance over a frame of bees, will do any harm, but we must not look for eggs.

The left eye, we are very glad to report, is entirely uninjured, and is in every way all right, but the use of it might affect the other eye.

CAUCASIANS EXCESSIVE BREEDERS OF DRONES ;
WHAT THIS WILL MEAN.

ONE of our correspondents, Mr. C. W. Price, in this issue, in uttering words of praise for the Caucasians states one thing that is not very much in their favor; and that is, they are inclined to raise too large a number of drones. We find this to be emphatically true in one yard where we raise Caucasians. They run excessively to drones in spite of the fact that we are using full sheets of foundation. If the cells are slightly elongated, drones are sure to be reared in great numbers. If there happens to be any drone comb built to fill out space in worker comb removed it will be solid with drone brood.

So far as the loss of energy in rearing drones is concerned, that is a small matter. At a yard where we have mostly Caucasians and some Italians, the Caucasian colonies will rear a hundred drones to the Italians one. This simply means that the Caucasians will run out the Italians in very short order; for if there were a hundred Caucasian drones flying to one of Italian, the whole locality would run to the black strain of bees rather than to the yellow. If, therefore, one introduces Caucasians in his yard for the purpose of experiment he will have to put on

drone-traps and shave off the heads of the drone brood every now and then — otherwise the yard will run to Caucasians. If they should prove to be undesirable it would be unfortunate to say the least.

PLANNING WORK AT A BEE-YARD; EXCHANGING BROOD AND STORES.

A STRONG flow of honey was on from fruit-bloom — so strong, in fact, that we never saw as much nectar coming in, even from basswood. Colonies which, on the opening of the bloom, were on the verge of starvation, filled their hives jammed full of honey, ready for capping, in the short space of three days. Even nuclei made a wonderful showing. The question of giving room was one that required immediate attention. We had only a limited number of supers and empty combs at the yard. It was important to give relief where it was needed the most. We accordingly watched the flight of bees at the entrances of all the hives. From all those colonies where the bees were flying the strongest we removed the upper cover, leaving the thin board super-cover on top. Then we looked at the entrances of all the hives where there seemed to be the least doing, and turned their covers catacornered. This shift of covers was for the purpose of designating the hives. We then took a hasty glance into the brood-nests of every one of the hives of both the strong-working colonies and those that showed but little indication of field work. We thus found the exact condition of the strongest flyers and of the other sets. We now proceeded not only to make the strong help the weak, but the weak to help the strong. The former were made to give up their empty combs, if they had any, to the latter, exchanging unsealed brood for hatching brood. In the case of the very strong ones, where the hives were jammed full of honey, we put on supers. This done, we had the extra strong and the weakest to a certain extent equalized, the strong being given unsealed brood and empty combs from the weak, and the weak, on the other hand, being given sealed brood and combs jammed full of honey from the strong.

We now had left unexamined only the medium colonies in the yard. Some of them were not suffering for room, and when we went across them we marked them, and from those that needed room we took combs filled with stores, and exchanged them for empty or partly filled combs from the marked ones. When we got through the yard every colony had its hive filled full of honey of nearly equal amounts. The very strong ones had mainly unsealed brood, while the weak and the very weak had mainly sealed and hatching brood.

During this process of exchanging brood and stores it was necessary to keep open some seven or eight hives at a time. During all of our work the editor's eldest son was kept busy opening and closing hives, bringing back and forth combs and brood to and from the hives.

In this connection we might remark that a comparatively inexperienced man or boy can enable one good man to do almost two men's work; for the expert can furnish brains for the muscle of two men; and the result is a harmony of plan and of execution.

"NEW LIGHT ON FOUL BROOD."

In the *British Bee Journal* for April 30 and May 1 there is a general discussion of some new investigations made by Dr. Maassen under the above caption. It probably would not be interesting to give the whole of this, but we will here give the summing-up as found in the *British Bee Journal*, pages 183 and 184.

To sum up Dr. Maassen's important work, we find: 1. That three different organisms may produce foul brood, two of which are usually associated in different phases of the disease. These are *Bacillus alvei*, Cheshire; *Bacillus Brandenburgensis*, Maassen (syn. *B. Burri*, *Burri*, *B. larvæ*, White); *Streptococcus apis*, Maassen (syn. *B. Guntheri*, *Burri*).

2. That when the disease attacks unsealed larva *B. alvei* is present, and in virulent cases it is also found in sealed brood.

3. That *Streptococcus apis* of "sour brood" is usually associated with *B. alvei*.

4. That *B. Brandenburgensis* is found in the sealed larva only just before it changes to a pupa, and is frequently associated with *B. alvei*.

5. That the two bacilli are antagonistic to each other, and are constantly struggling for supremacy, sometimes the one and sometimes the other getting the upper hand.

6. That other bacteria are sometimes associated with *Streptococcus apis* which kill its cocci, so that bees are able to remove the dead larva, and in some instances during a good honey-flow the disease may be held in check or the colony become for a time cured.

7. That the disease in which either or both bacilli are present is equally infectious.

The editor of our esteemed contemporary seems to take the view that some of the conclusions arrived at by our own Dr. White, of the Department of Agriculture, are incorrectly drawn. We have carefully gone over this whole discussion, but we do not see that the conclusions are so widely different from those arrived at by Dr. White. Indeed, in many respects the work of the two men runs along in parallel lines.

For example, both find in the ropy type of foul brood the same bacillus, though under different names. Dr. Maassen designates it as *Bacillus Brandenburgensis*. Another name is *B. Burri*, after Burri, a bacteriologist of note, while Dr. White calls it *B. larvæ*. By whatever name it may be called, all three of the bacteriologists agree that it is one of the pathogenic microbes found in ropy foul brood. Dr. White makes no claim that it is the *sole* cause, while Dr. Maassen appears to share the opinion that *B. alvei* as well as *Streptococcus apis* are also present and also pathogenic—that is, they are disease-forming. There is no contradiction between them on this point.

Again, while Dr. White has found *B. alvei* in the ropy type, so far as we remember it was only in the combination of black (non-ropy) and ropy foul brood. Dr. Maassen, on the other hand, seems to hold the view that *B. alvei* and *B. Brandenburgensis* (*B. larvæ*) are both the primal causes, the one struggling against the other for supremacy, but *B. alvei* being more predominant in the unsealed stages of the dead matter, while the other seems to be more in the supremacy after the sealing.

This, in our judgment, goes a long way to confirm the statement made by Dr. White, who finds that *B. alvei* is always present in black brood which mainly manifests itself in the unsealed stage of affected brood, while *B. larvæ* is always found in ropy foul brood, which disease shows itself mostly in the sealed brood.

Again, Dr. White finds that the *B. larvæ*, *B. Brandenburgensis*, or *B. Burri*, or whatever we may call the microbe, will not grow in ordinary

beef gelatin for pure-culture work; but that it does grow in the juices of larvæ. Dr. Maassen finds a difficulty in propagating the *same* bacillus in beef gelatin; but, like Dr. White, he does find that it will grow in larval juices, and also in a product made from brains and albumen. Here again we have a harmony of opinion.

Dr. Maassen seems to take the view that *B. alvei* is always found in the ropy type of foul brood, while Dr. White finds it only occasionally when there is a combination of the two diseases.

It is not entirely clear to us that the black brood of Europe is the same as the foul brood of this country. The difference in environment may account for the difference in findings.

The summary of the whole matter is that Dr. Maassen believes that ropy foul brood is caused primarily by three microbes, the two most prominent being *B. alvei* and *B. Brandenburgensis*. Dr. White inclines to the view that ropy or American foul brood is caused by *B. larvæ* or, what is probably the same thing, *B. Brandenburgensis*; that *B. alvei* is not found in normal ropy foul brood, but he does find it invariably in black brood or what the Department has differentiated as "European" foul brood.

Speaking of American and European foul brood to designate respectively the old-fashioned ropy foul brood and black brood, some regard these qualifying adjectives as very unfortunate, because European foul brood is rarely found in Europe, but is very common in some portions of the United States; while American foul brood is very common in Europe as well as in America. But we regard this question of English names as unimportant. At the present time there seems to be a divergence of opinion regarding the primal causes of ropy foul brood, while Europe seems to be silent on the causes of black brood.

As the writer has been unable to go over this entire discussion on the printed page for the reasons stated elsewhere, depending on his ears only, it is possible he may not have stated correctly the views held by American and European scientists.

Later.—We have gone over this whole matter again; and it is increasingly evident, first, that between the bacteriologists of Europe and America there is more and more an agreement in the findings. Second, that the real black brood, such as was found in New York, apparently does not exist in Europe except in combination with the ropy type of foul brood. The descriptions of the external characteristics, so far as we have been able to find them, do not indicate a black brood such as we have in America, but a modified form. If this be true, it will be very easy to harmonize to a great extent the variations in findings of the bacteriologists. We have every reason to hope that the time will soon come when the slight confusion now existing will be cleared up.

For the benefit of our European cousins we may remark that there is a very marked difference between what we have been calling black brood and the old-fashioned ropy foul brood. The difference in the character and odor of the dead larvæ is very decided, and this is also true of the effects. It is rarely true that the one disease is supplanted by the other, or that both are in the hive at one and the same time.

CONVERSATIONS WITH DOOLITTLE

WAX SECRETION.

"I want to ask you a question or two, Mr. Doolittle, regarding wax secretion. It is calculated that a ten-frame Langstroth hive requires about 2 lbs. of wax to fill it with comb, is it not?"

"I think that is about the estimate, and it is not far out of the way."

"Then are you prepared to say that, when swarms are building their own comb, and filling the brood-chamber with brood and honey, other and similar swarms, which were supplied with full sets of ready-made comb, would store a surplus of 50 lbs. of honey?"

"I do not know that I fully understand what you are after; but I judge that you think the estimate of the consumption of 25 lbs. of honey to produce one pound of secreted wax is too high a figure."

"Cut it down to 25 lbs. surplus from the ready-made combs, as against nothing from those that built their own comb: what do you say now?"

"The claim put forth by some that it takes 20 lbs. of honey to cause the bees to secrete a pound of wax, and that the bees would gather 5 lbs. of honey while they were manipulating the pound of wax into comb, thus making an expenditure of 25 lbs. of honey for every pound of comb built in the hive, I have always considered a fallacy."

"Do you know upon what such calculation was based?"

"Upon Huber's experiments, I think."

"Then Huber must have been a careless experimenter."

"I should hardly want to say that. I think there is no question but that the experiments of Huber, proving that it took 20 lbs. of honey to produce one pound of clean (wax) comb were correct, under the conditions by which they were tried; but it must be remembered that bees are thrown out of their normal conditions when they are confined to their hives so that they may receive no benefit from the fields; and when not in a normal condition there is no accounting for what they will do. Most of our practical apiarists of the present time have been led to believe that the real cost in honey to produce one pound of clean comb, when the bees are in a normal condition, is from 5 to 10 lbs. This being the case, the true answer to your question would be that you should secure from 10 to 20 lbs. of honey extra from a swarm hived on a full set of combs, in a Langstroth ten-frame hive."

"Then that is as you believe?"

"From my experience covering about forty years, taking an average, this difference is about right."

"Well, you and I can not agree."

"How is that?"

"There is an important part which has not as yet been touched upon at all."

"To what do you allude?"

"To the fact that bees secrete wax during any and every heavy flow of honey, whether the hives have comb in them or not. Let me tell you

some of my experience. I have been extracting honey from a part of my colonies during the past four years; and when honey was coming in abundantly I have seen workers in extracting colonies that were laden with great pellets of wax scales sticking out on the under side of their abdomens. I have caught such bees, and with the point of my knife have pulled off these pellets of wax, piling the eight pellets together, when I had enough coming from one single bee to build a good part of one cell if not the whole of it."

"But that wax was probably to use in lengthening out the cells and capping the honey a second time, after you had shaved off the cappings and a part of the comb the time before, when extracting."

"Possibly some of it might have been used in that way. But I had not finished. At such times I have seen wax used to plaster on the front of the hive, to chink cracks, putting great knots or knobs of it here and there, where there seemed to be no purpose other than to get rid of it in some way. Aren't the bees silly to eat honey from which to make wax just to waste? If the cost of wax is 5, 10, or 20 lbs. of honey, it would seem to me the bees should know enough to store that away for future use when they have the combs all provided, rather than use honey to secrete wax when there is no comb to build."

"Then your idea is that the bees secrete wax during a heavy flow of honey, and do this without regard to whether there is any comb to be built or not."

"That is right. And I consider the filling of a hive with foundation, of combs already built, only a waste of the cost of the foundation, and the time and trouble of using it."

"And I think you are a little hasty in your conclusions. Listen a minute. There is an element which comes in right here that is well worth considering. Swarms hived in full ten-frame Langstroth hives, with empty frames, or those having only starters in them, are almost sure to put much of the wax you are talking about into drone comb, especially if the queens are not very vigorous; and this drone comb is against the best usefulness of such colonies for all time to come, so long as those combs are occupied by bees; and to do away with this drone-comb nuisance, a few combs to insert when the bees persist in building drone comb are a bonanza, even if they cost 50 lbs. of honey to build five of them."

"Why do you specify *five*?"

"Listen to this: Hive your swarms on five empty frames, having only starters in them, putting on a super of sections when hiving, and the bees will build out the five combs nearly if not quite all the worker size of cell, if their queen is good for any thing. Now take out your division-boards, or dummies, which have been used thus far, and fill out the hive with five nicely built worker combs, and you have things as they should be, and something which will be a pleasure to you as long as you and those combs live together."

"But you don't think all the wax will be saved in that way?"

"There will be no loss of wax when working in this way provided you have the surplus arrangement partly filled with comb foundation, as

any knobs of wax not needed below will be used in building combs in the sections. In this way we kill two birds with one stone."

GENERAL CORRESPONDENCE

HONEY-HOUSES.

A Description of Some of the Honey-Houses in Northern Michigan and an Outline of the Methods Used.

BY E. D. TOWNSEND.

As our yards are all located on rented ground, so that frequent moving is necessary, we build the honey-houses in sections. The floor is in halves; the sides and ends are separate, and bolted together with two bolts in each corner, and each side of the roof is built independently of the rest of the building so a half can be taken off at a time for moving.

A 32-inch door is put in one end, without screen or glass, for door-screens attract the robbers so that some of them are sure to dodge in when the door is opened. Centrally located on both sides of the building, next to the plate, window-holes are cut, and covered with wire screen nailed on the outside with lath strips to hold it down. These window-holes are boarded up with a framework which slides to one side to let in the light. As all the work at the outyards is done during warm weather, no glass is necessary.

The framework above is of 2×4 material, planed on all four sides, while that below the floor is 2×6, not planed. The siding is of single boards planed on both sides and nailed up and down; the roof-boards are the poorest of the same material. See GLEANINGS for Oct., 1906, page 1242.

TAR BUILDING-PAPER TO LINE BEE-PROOF HONEY-HOUSES.

To make our honey-houses bee-tight we have tried several kinds of building-paper, but have decided that tar paper is the best. We put it on with lath, being sure to have it lap well at the joints, and to fit the corners perfectly. Wherever there is likely to be a bee-space or opening we are especially careful. We have never yet been able to find a carpenter who would do the work well enough, and we believe that the bee-keeper should attend to the papering himself, therefore, whenever possible.

A honey-house papered April 1st will have lost most of the smell of tar by the time much work is done, so those who do not like the smell need not hesitate, for it is of short duration.

Bees, mice, and ants dislike tar paper, and hardly ever go near it. The mice never gnaw it and let in bees, as they will do if other kinds of paper are used. Some of our honey-houses have not had a mouse in since tar paper was used; but they make nests of the white building-paper we used to use, and some of the houses had to be repapered each year. The worst mistake we ever made was to paste on the paper. The mice seemed to

follow us and eat the paste as fast as we could put it on—of course, tearing the paper meanwhile. When the house is lined with tar paper we never see any ants.

THE CHAPMAN HONEY-HOUSES.

At his home yard Mr. Chapman has a fine new honey-house and storeroom, with his bee-cellars under it. As this is his headquarters, much of his material is kept there until wanted at the out-yard. While this house has all of the latest appliances to be found in most home-yard houses, I want to talk most about the one at his out-yard, which is, perhaps, ten feet square. There is room only for the operator, extractor, tanks, etc., so the team is hitched to the big wagon, and the honey-cans and such other things as will be needed for extracting are hauled to this yard in the morning. The honey is taken off the hives, extracted, strained through cheese-cloth, canned up, and set out of doors until the day's work is done, when the bees will have stopped flying. The team may then be driven to the house to get the honey, for it is drawn home each night. By this plan the honey is canned as fast as extracted, so all of the aroma and best flavor are retained. Such a plan is a very good one where the out-yard is so near that the honey can be drawn home every day. Some of our own yards are worked much on the same plan, although we do not have to draw *all* the honey home each night, having plenty of room at the house to store it.

Mr. Chapman, not having room in the house to store the combs after extracting, sets them out for the bees to clean up immediately. A load of the wet combs just extracted is taken out to one side of the yard, and placed criss-cross for the bees to clean. The writer happened on the scene one July day when the extracting was going on; and as the flow from raspberry had ceased, there was nothing for the bees to do but to carry in this honey from combs. While there seemed to be quite an uproar, the honey was being taken without any sign of robbing.

When the season is over, as there is no place in the extracting-house to store the tools over winter they are all drawn to the main house at the home yard, as are the empty combs after they are cleaned of the honey that is left on them after extracting.

THE COVEYOU HONEY-HOUSE.

Mr. E. E. Coveyou, like many of the out-yard bee-keepers of Michigan, uses some of the abandoned lumber-camp buildings for his honey-houses. He does not try to keep the bees from entering his honey-house, but plans to do the work at a time when the robbers are not likely to bother much. The honey is taken off the hives during the day and piled up in the yard, being covered so the bees can not get to it. Then, toward night, after the sun has warmed the honey, it is taken into the honey-house and extracted with his big eight-frame automatic extractor. It does not take long to do this, and the work is done so late in the day that the robbers do not get started much before it is too late for them to fly. After all the honey that was taken off is extracted and canned the combs are piled up and covered so the bees can not get to them. The extractor and uncapping-box are also closed bee-tight. This is not a very desirable way of han-

dling a crop of honey, and is the only flaw I have been able to find in Mr. Coveyou's methods. However, I understand that he will abandon this plan next season for another one which I will describe later.

KIRKPATRICK'S HONEY-HOUSE.

Mr. Geo. H. Kirkpatrick, Rapid City, Mich., who has several yards of bees in the raspberry region, builds all his extracting-houses small, and depends on storage room elsewhere for his honey and combs. His honey-houses differ from Mr. Chapman's in that he puts the honey he uses into a large honey-tank, instead of directly into the cans. The houses are built about 12 feet square, bee-proof, and about a third of the floor space at the back end is let down three feet lower than the main floor. In this lower part are located the tank and scales, so arranged that the honey from the extractor runs directly into the tank, and from this tank into the 60-lb. can resting on the scales. The honey is all extracted after the season closes, and is in good condition to can as soon as extracted; but it is let in this large tank over night, then skimmed and drawn from the bottom. This makes very clear nice-looking honey, and handled this way it is of good quality. While Mr. Kirkpatrick is a convert to the better way of canning the honey direct from the extractor, he has not changed his outfit yet, but probably will do so during the coming season.

THE HUTCHINSON HONEY-HOUSES.

The Hutchinsons have their outyards near some of the abandoned lumber-camps, so they build over the camp-buildings for a honey-house. Usually these camp-buildings are much larger than necessary, and partitions are run across to make the bee-proof honey-room. Besides the main extracting-room, there is a small room of suitable size for heating the honey before extracting. This room is lined with paper, to retain the heat from the large oil-stove used to heat the honey. The honey is taken off with escape-boards, and stored in this room where this oil-stove is lighted the night before they intend to extract, with the result that, in the morning, the honey is in much better shape than that just from the hive. Honey just from the hive, especially on cold mornings, does not extract very clean, and requires a long turn of the extractor to get it at all.

A few times I have warmed the honey to be extracted; and if things are arranged right, there is no other way that is so satisfactory. The honey is just a little warmer than that from the hive in the hottest weather, which makes it about as thin as water, and of course it is thrown out of the combs much easier, and the combs are extracted very dry.

EXTRACTING IN THE OPEN AIR.

At one time I worked ten swarms of bees on shares, for a neighbor, and I did the extracting out of doors under a shade-tree. Every thing was kept covered up as much as possible to prevent robbing; then a smoker was kept going, and the assistant would keep the smoke where it would do the most good. This yard of bees had not been handled, and the colonies had not learned the robbing habit, so they were not very bad to commence with.

THE IDEAL HONEY-HOUSE.

The ideal honey-house for a hundred-colony bee-yard would be a building 18 · 24, lathed and plastered on the inside. It should be built at the lower edge of the bee-yard, to facilitate wheeling the honey from the yard. It would be better if the gentle slope of the ground were to the south or southeast. I would build the end of the building toward the bee-yard, with a good wide door at both ends. The ground at the back should be about six feet lower than the front, to allow a platform wagon to stand with the top on a level with the honey-floor for convenience in loading and unloading honey, supplies, etc.

Two-thirds of the floor on the end toward the front or bee-yard should be built on a level with the ground at this point for convenience in wheeling in honey; then the third toward the back end would be built two or three feet lower than the front or main floor. The front floor would be for the main workroom where the extractor, uncapping-box, and combs are kept. The lower floor would be for the honey-tank, scales, honey-cans, etc., and the distance this lower floor should be below the main floor would be determined by the height of the tank to be filled; for the extractor would be set at the edge of this upper floor, with the gate projecting over so the honey could run direct from the extractor into the tank, then from the tank to the 60-lb. can on scales. The shallower the tank, the less difference there would have to be between the two floors.

Remus, Mich.

BEE-KEEPING AMONG THE CELTIC MONKS OF GREAT BRITAIN.

Why Candles of Beeswax are Used for Sacramental Purposes; a Church Built by the Bees.

BY FATHER MAURUS MASSE, O. S. B.

As in the honorable mention you make of us in the January 15th issue, page 83, you do not seem quite certain whether we read *GLEANINGS* and the *A B C*, I am penning these lines to assure you that we do read them both with great interest and pleasure. What you say of European clergymen as being often ardent disciples of the bee-keeper's art is quite true, and my researches in that line lead me to conclude that it was still more so centuries ago; for then it was not only pleasure and profit but necessity that prompted them to keep bees. To mention only the Celtic monks of Great Britain, and, later, of Armorica (whether they were driven by the Saxon invaders), for whom I may be pardoned for taking a special interest as one of their race and profession, many a quaint story is related in ancient chronicles about their apicultural successes. Thus we find the following interesting account of the exchange of their products with the Parisian abbeys:

One day St. Samson, abbot and bishop of Dol (in those times abbeys very often became bishoprics) and the bishop of Paris talked together about their monasteries. St. Samson mentioned that his monks were such good managers, and so careful of their hives, that besides the honey, of which they had an abundant supply, they had more wax

than they could use in the church during the whole year; but that the country, not being fit for the growth of vines, they had a great dearth of wines. "And we, on the contrary," said St. Germain (bishop of Paris), "have vineyards in abundance, and a much greater quantity of wine than is wanted for the supply of the monastery; but we are obliged to buy wax for the church. If it pleases you we will give you every year the tenth part of our wine and you shall furnish us with wax to light our church." Samson accepted the offer, and the two monasteries mutually accommodated each other during the life of the saints.

I have gone to some length to quote this agreement, because it illustrates very well what must have been the custom in most Celtic monasteries of that period, not excepting Buckfast Abbey, as the extant records would imply; for this old abbey had a Celtic origin, and is believed to have been founded in the sixth century by the great British saint, Petrock, son of a Welsh king. St. Samson, spoken of above, was a compatriot and an intimate friend of our founder, and on his way to Armorica came to Devonshire to spend a few days with St. Petrock, when, I feel sure, the bees formed an item of their conversation, just as it happens now when two bee-keepers meet. Another British monk of the same period (sixth century) was so celebrated as a bee-keeper that popular tradition invested him with the glory of having introduced bees into Ireland. This predilection for bees went so far that in monasteries, which, by the will of their founder, were sometimes to remain without earthly possessions, yet was there an exception made in favor of bees, of which they could have an unlimited number. This should not astonish us if we bear in mind that monks like to consider their monastery as a "Holy Land" where floweth the milk and honey of spiritual graces and consolations; and the analogy is brought home to them more forcibly by the presence and taste of the material honey. Ancient writers even compare the monastic home to the bee-hive, because, as says Virgil, "Innatus apes amor urget habendi," so "the monastery was a hive of piety and industry wherein the monks gathered in abundance the richest honey of religion, literature, and science, to be freely dispensed to those around them."

But, besides such mystical considerations, there was, as I said, the reason of necessity. You are aware, no doubt, that in the Catholic Church beeswax candles are extensively used for divine services, and their liturgical meaning is to represent Christ, the light of the world. No other material could replace beeswax, which has a noble and beautiful mystical signification; for, being produced by a virgin insect, it represents the body of Christ produced by a virgin mother; hence the great consumption made of that precious substance for church purposes. It is marvelous to read what Anglo-Saxon writers tell of the splendor of divine worship at the times when Briton and Saxon alike flocked to St. Mary's Abbey on great festivals; of the countless waxlights that made night as bright as day; and well may we ask from what source they did draw all that beeswax. I believe it was produced in great quantities by clergymen themselves, as the instance of St. Samson mentioned above testifies. This

was so well known that the ancient laws of Spain made the provision that clergymen might pay their taxes in wax instead of money if they chose to do so.

An instance somewhat similar is connected with this abbey. By a charter (of which the original is still extant) given to the monks of Buckfast in the year 1216 we learn that the (then) abbot agreed to give on the patron feast of our abbey one pound of beeswax to all our knightly benefactors in order to keep alive the memory of their gifts. The distinguished company, before signing that charter in our chapter room, had, no doubt, visited our garden and had seen a good range of bee-hives as now, and nothing, therefore, more natural than that they should suggest an annual pound of beeswax as a recognition for their liberalities. We are not left to ignore, however, that a lady disagreed to this, and, when the document was brought to her to be singed in the guest-house (for, according to monastic customs, ladies are not admitted within the enclosure), she asked to have a pair of white gloves instead of the beeswax, which request was easily granted, as Buckfast Abbey was then the great center of woolen manufactures in Devonshire. Perhaps the reason that beeswax can now be gotten so easily causes us to cultivate bees on less extensive lines. But still, even now I know of more than one Lord Abbot who does not think it below his dignity to look after these interesting little creatures, and within the last two years it has been my own privilege to help in introducing bees into two newly established monasteries.

The following is a curious example of what may be done with bees. I know of a clergyman who set twelve stocks of bees on a piece of land granted to him on lease. They prospered so well that in a remarkably short time he not only paid for the land, but also built on it a nice parochial church almost entirely with profits derived from his bees. This has set me thinking how much I wish we could do the same here, for we have just started rebuilding our old monastic church to the memory of the late Lord Abbot who perished last August in the wreck of an Italian steamer while on his way to visit our American brethren. He loved the bees so much that, on his tour to the United States two years ago, he brought us some seeds of your bee flora. This will explain why the present writer is anxious, that, in their turn, these sweet pets should contribute in some way their little quota to the erection of the monument in memory of the popular and beloved deceased. But sharing not in their capabilities the same confidence as the above-mentioned clergyman, he has deemed it more prudent to exchange temporarily the fragrant air of the apiary for the dusty studio, as illustrated in the enclosed photo.

Our apiary is beautifully situated in a valley, and a more ideal place could scarcely be found for bees. It is protected on all sides against the wind, and is, during spring and summer, like one of nature's Edens. One side of its secluded precincts is wooded with the fragrant thuja; on the west and north is a long low wall of which the stones are intermixed with *Arabis Alpina* and *Aubrietas*, which, forming a solid mass from end to end, descend to the ground like a graceful carpet, while their snow-white cross-shaped flowers

spread their chaste perfume all about. Behind and above that wall, as if to shelter the sweet fragrance from the north wind, rise the golden broom and roses with their delicate colors, while gorgeous hues of wild flowers and ferns fringe with beauty the banks and braes and streams around. Two rivulets of clear water crooning under the ferns and trickling down from stone to stone, in their gentle embrace enclose the apiary, mingling their tiny voice with the aerial hum of the busy throng, whilst hard by in the dim shadow of its woody bank a mighty river, the Dart (called for its picturesqueness the English Rhine) winds along its poetic course. A few yards further lies a placid sheet of water, beautiful beyond expression, in which monstrous salmon weighing from 15 to 20 lbs. show us their glittering silvery scales. On the northwest of the apiary, a mile away, appears the imposing cone-shaped Hembury Hill, once a Roman camp, and historically connected with St. Mary's Abbey at the time when the heroic Britons made of it their stronghold against their Saxon invaders. From its summit may be viewed a panorama of matchless beauty, especially toward the venerable abbey among whose possessions it was reckoned centuries ago. Every year in late summer our bees animate its crimson-colored crest with their thousand thanksgiving hums.

The valley of the Dart is one of the loveliest parts of lovely Devonshire, and its nameless charm casts its spell even on Americans, of whom several come every year to spend their holidays under the shadow of the old abbey.

Buckfast, England.

THE TROUBLES OF AN AMATEUR BEE-KEEPER.

A Fools-day Experience.

BY F. DUNDAS TODD.

[It will be remembered that Mr. Todd is the gentleman we introduced in our issue for April 15, page 496. He has written a series of articles telling the experience of an amateur. The story he tells is very interesting, and will bring many a smile from those who have "been there" too. While it is the experience of an amateur, we feel sure that even the veterans, if they will read down the first paragraph or two, will be compelled to read the whole story.—ED.]

Trouble and bee-keeping are, in my experience, synonymous terms. I bumped into trouble the very instant I bought my first hive, and have been in it more or less ever since. Any man who can not enjoy troubles, who is not happiest when he lives and sleeps with them—aye, dreams of them—has no business to be a bee-keeper. I never yet cared for a pastime that anybody could make a big success of without mental effort; and possibly it was because bee-keeping looked so simple that I passed it by when choosing a new hobby. In a way bee-keeping was thrust upon me, and it has filled up at least four hours of my day or evening ever since I got the shock.

My family have been for years big honey-eaters, consuming at least two 60-pound cans every winter, and often I would threaten to keep a bee and raise my own honey. Then I got acquainted with a bee-journal editor and subscribed to his journal just to get a general idea of what bee-keeping looked like. Then, following one of

my rules, I bought a book on the subject, read it, and placed it in my book-case. Bee-keeping looked easy, and I had no desire to waste time on it.

Then the blow fell. A neighbor moved his home a thousand miles, and left his bee-hive behind him—one bought the summer before. Nobody in the village would touch the varmints at any price, and at last they were unloaded on me as being the easy mark that tackled almost any thing. Surely I was not afraid of bees? Of course, I was not. Then they ran themselves, required no care of any kind—all I had to do was to take the honey at regular intervals. The best thing to do with temptation, I have found, is to give in at once and get the matter off your mind; so I succumbed, paid the small price asked for the complete outfit, and shortly discovered that I had found a big exception to my rule. The little demons got on my mind in short order, and have been there ever since.

It was April 1 when I bought the hive. I inspected it in the yard where it had spent the winter, with practically no protection from the cold blasts that circle round Lake Michigan. A few bees were flying merrily, so I decided that night would be the best time to bring them home, since at that time all of them would be nicely tucked in their little bed and I would have no trouble—none at all. Just to make sure of them I would nail a strip of wood over the entrance, but the precaution was probably needless.

At 8 P.M. that night I set out with a wheelbarrow and a lamp for my hive. I nailed on the strip in front, and was amazed to hear an awful rumpus at the first stroke of the hammer. But I had the wild beasts safely caged, so it was all right. Carefully I swung the hive on the barrow, without mishap. For a mercy the bottom-board held, but no credit is due me, as I thought all bottom-boards were an integral part of the combination. It is not what we know that bothers us, but what we don't know. Five minutes later my ignorance brought the inevitable result; the punishment more than fitted the crime; in fact, it had enough surplus material left over to make several extra habits, including one of strong language.

In my own yard I had placed four bricks in the very worst location I could have selected—one that was open to all the cold northwest blasts for which Chicago is famous. As I was placing the hive in position, aided a little by the feeble light of a stable-lamp, carried without discretion by my boy, I heard the bottom-board drop, and then it seemed as if ten thousand needles had been suddenly thrust into the points of my fingers. A quick glance showed me an army of black smudges rushing all over the sides of the hive, so it was dropped into position and I beat a hasty retreat. It was the worst April-fool stunt that ever had come my way; but I draw a veil over the rest of that evening's doings and sayings, especially the latter.

What had I done wrong? Now I turned to my own book and the ones that came with the outfit; but, oh what an awful tangle every thing seemed to be in! even the catalog was confusion tento—so many different kinds of hives; but mine was unlabeled. Bit by bit I learned that bottom-boards and hive-covers are unattached

but essential parts of any well-constructed hive, and that in the case of moving they ought to be fastened thereto. As my fingers and ankles ceased throbbing I felt less vindictive toward the manufacturer, but more determined to know more about hive construction.

Day after day I studied the catalog, and carefully read through the caption "Hives" in the A B C book, and often with the catalog in hand I would put this question to the Sphinx: "What are you, anyhow—a Hoffman, a Langstroth, a story-and-a-half, or a Danzenbaker?" and, sphinxlike, it answered nothing.

What I did not know was bothering me a whole lot. At last I got some relief. One night I was called to the telephone. "Say, Todd, is it true you have a hive of bees, and that the little wretches have about laid you out?"

"Yes, and no; but where do you come in?"

"Oh! I kept bees when a boy, and I am just dying to get my hands on a hive. I know all about skeps, but have had no experience with frames."

Result, we combined our forces and investigated the inside arrangements one afternoon in the midst of a cold northwest wind. My friend thought he saw the queen, a miserable little runt he called it, but there were a few drones out and lots of drone-cells. I took his word for it in every thing. We assumed the hive was a Danzenbaker, after a study of the catalog; but I refrain from saying how often I measured the outside dimensions of that hive. My mind now got some repose, and I thought my bee troubles were all over, and so turned my attention to my cold-frames. Soon, however, I noticed each evening an awfully big heap of dead bees in front of the hive. I would lay a piece of paper on the ground, and the next night I would find a hundred or two of dead bees on it. Then drones were flying freely, and I began to suspect that something was wrong.

Back to the books again. Gentle reader, did you ever hear of "Buchan's Domestic Medicine"? It was a household work in Scotland fifty years ago, and many nervous people put in nearly every spare minute studying the symptoms of every disease so as to locate their own. One man I knew was said to be convinced that he had most of the symptoms of every disease mentioned in Buchan, including those of a condition that can not possibly occur to a member of the male sex, and I often thought of him as I burned the midnight electric light over such parts of the A B C as are devoted to diseases. Not finding the exact symptoms I proceeded to read the whole book, and at last struck "Bee Paralysis." This was the nearest I could get; but it did not properly cover the ground. One thing I was sure of—lots of my bees did stagger around on the alighting-board as if drunk or paralyzed, and were hustled off by their cruel-hearted sisters. They were black and greasy in appearance, as described in the book, but their abdomens were not swollen. And the drones got more numerous, making the welkin cheerful with their hum. Another examination of the inside of the hive showed fewer bees and more drone-cells. Verdict, hive no good; cause unknown.

Medford, Oregon.

To be continued.

CAUCASIANS THAT EXCELLED ITALIANS.

They Capped the Honey Whiter, Entered the Supers more Readily, and were Easily Distinguished from Blacks.

BY C. W. PRICE.

[The following article by Mr. Price, in praise of the Caucasians, may draw out some protests from some of our subscribers who have tried these bees, and who report they are no gentler and no better in any respect than Italians. After some of these protests had come in we held back one article praising these bees, and the writer of it felt that we were not fair in that we allowed an article to go in condemning the bees, and yet refused to publish his in praise of them, as he had found them to be eminently satisfactory. We are now publishing both articles, and will endeavor to publish any unfavorable ones as well as any that may come in praise of them.—Ed.]

I notice that the different writers are divided as to the value and importance of Caucasian bees. This being the case, I think they should be thoroughly discussed, and all of the good or bad points fully brought out.

When these bees were first brought to my attention I was at once seized with a desire to try them. Situated as I am in town with neighbors on each side, and with only a small tract of ground, I thought that, if I could get a strain combining prolificness with gentleness and good honey-gathering qualities, I could well afford to make a change. I had commenced with black bees, then I changed to Italians with some hybrids mixed in with them. I like the blacks fully as well as the Italians. They stored more honey for me, and capped it nicer than the Italians, and would enter the supers when Italians would not. The last year I had the Italians the two strongest colonies refused to go into the supers, and, try as I would, they would not and could not be induced to go above. They would cram the brood-frames with honey, and then swarm. The hybrids did better for me than the Italians. They entered the supers as readily as the blacks, and capped the honey nice and white. Then the Italians are apt to change their minds about being gentle, and surprise you when you are unprepared. I found that they could be cross on short notice.

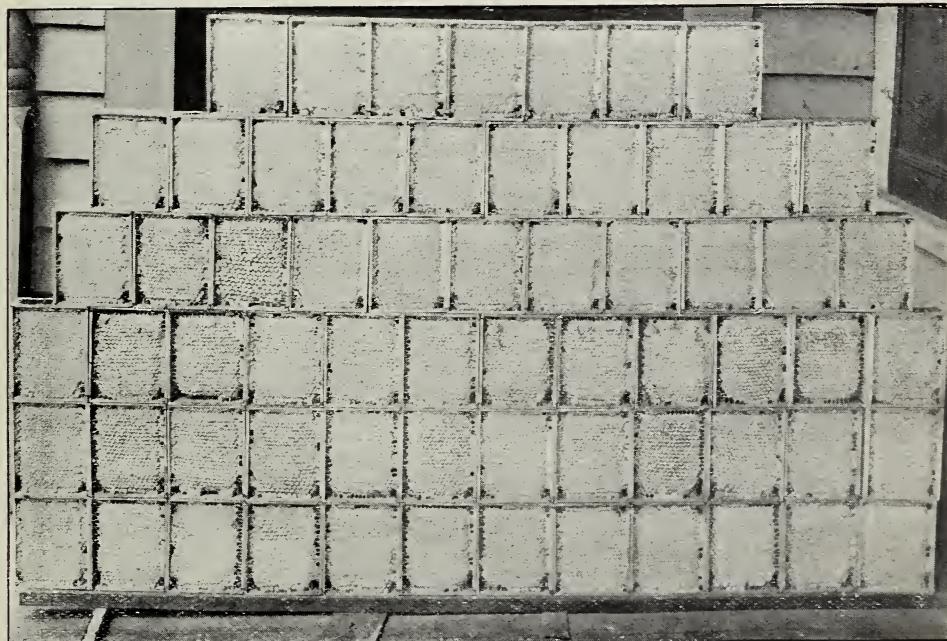
Early in the season of 1906 I procured several tested Caucasian queens from different places. Two of these queens were select breeding queens, and all of them were fine ones. During that season I raised and introduced Caucasian queens into all my hives. In the fall of that year I received an imported Caucasian queen from the Department of Agriculture at Washington, introduced her, and she proved to be a good queen.

The year 1907 is generally considered to have been a very poor one for the production of honey. This is the report brought to me from over this county, and all bee-keepers whom I have seen report the season as a poor one. Regardless of this fact, and the still further fact that I had but little time in which to look after my bees, the Caucasians gave me more honey than was obtained by my neighbors or by any one in the county so far as I am able to learn. I had more honey per colony than any one near me, and there are a number of bee-keepers here. My Caucasians beat them all. They built up very rapidly in the early summer—so fast, in fact, that I was surprised to find them so strong with bees

when the honey season opened. They swarmed about as much as the Italians had been doing, but were more gentle when being handled. When it came time to put on the comb-honey supers they were all in good condition, and I was pleased with the way they entered the supers and commenced work. If they continue to be as good honey-gatherers as they have been so far, no more of the yellow beauties for me. They capped the honey nice and white, and the work in the supers could not be surpassed by any bee. No discount on them there. The two first supers to be removed, which were a fair sample of all I obtained, were so nice that I took the 64 sections out of the supers, and had the honey photographed. I inclose a picture of the honey as it appeared then. This was not sorted over, nor any particular super selected for the purpose. It was just a fair sample of what I obtained.

There seems to be something about them that makes them all want to defend their hive when attacked. When the weather is not favorable for handling bees you will find the Caucasians about as cross as any bee you may meet. They will fight like tigers if you attempt to handle them when the weather is cool. Leave them alone then. They are good defenders of their homes, and are seldom robbed by other bees. In handling them they will remain on the combs just like Italians, and are in some ways very much like them.

The color is enough different from the blacks so that they may be readily distinguished from them. They raise lots of drones; and, consequently, if you were to have Caucasians introduced into your yard the chances are that, with the large number of drones raised, they would be likely to remain pure Caucasians. They will



FIRST TWO SUPERS TAKEN FROM A COLONY OF CAUCASIANS IN 1907.

This shows the average quality of the sections, as no effort was made to pick out good supers.

I have found the Caucasians more gentle than the Italians, and with me they have stored more honey, capped it nicer, finished off the sections just as nice, put less propolis on the sections, and did not attach so many of the sections to the separators. This last was quite an objection to the Italians, for in some seasons they would attach so many sections to the fence separators that it was quite a loss, as more or less of them would be damaged in being removed from the supers. Now, there is quite a difference in bees in more ways than one. I have found that, while the Caucasians are gentle and easily handled when the weather is warm and they are at work, they must be left alone when it is cool and cloudy.

start a large number of queen-cells, and are good bees to have if you wish to raise queens, as they will care for more cells than Italians or blacks.

The one principal objection to them seems to be their habit of gathering propolis; but I think this is being greatly exaggerated. I find less propolis on the brood-frames and on sections than before I had them. It is a fact that they will gather a large amount of propolis and deposit it at the entrance to the hive in lumps as big as the end of my thumb; but this is about as good a place to have it put as I know of; in fact, this is where I want to have it left, then I can raise the hive off the bottom-board, scrape it off, and it is done with.

My advice to those who have the Caucasians is, do not be in too big a hurry to condemn them. They have proven to be all right with me, and they will do so with you if given a chance. Too many condemn them without giving them a fair trial. There are bees and bees; but you can not find the bee that will please everybody: it is impossible. If you are so situated that your bees can bother no one, then the gentleness of the Caucasians will not appeal to you so much. Those who are living in town, and are timid about handling bees will find the Caucasians very satisfactory.

Spirit Lake, Iowa.

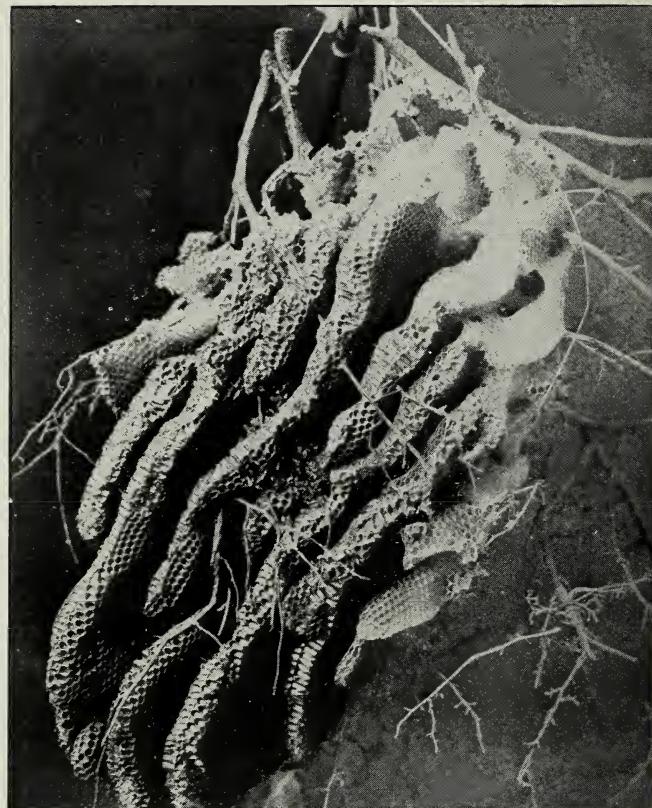
[Our correspondent believes that the Caucasians are enough different in their markings to be readily distinguished from black bees. Some may differ with him in this. It will be remembered that one of our correspondents, some time ago, sent by mail some cages containing samples of Caucasians, blacks, and Carniolans to some of the expert queen-breeders. They were unable, by the markings of the bees, to name them. There is a difference, but

it is so slight that the great majority would not be able to distinguish one type from the other. In point of behavior there is a marked difference between blacks and Caucasians. The difference in markings between Carniolans and Caucasians is more distinct than between Caucasian and black bees. The Carniolans are slightly larger than either, with a bluish-black cast, while the Caucasian and German bees are of a grayish black; but the Caucasians are a little brighter, the fuzz-rings showing more distinctly.—ED.]

A WHOLE APIARY TO BE CAUCASIANIZED; ONE-
THIRD MORE HONEY FROM CAUCASIANS
THAN ITALIANS.

On page 42 Mr. F. R. C. Campbell writes that he has two Caucasian colonies from Washington that did not gather as much honey as Italians and hybrids, but that they plastered fences and sections with propolis.

I wish to report that we have 35 colonies, also from Washington, D. C., that put up 160 lbs. of fine section honey per colony the past season, besides filling 75 lbs. in the brood-chamber at the close of the season, which was one-third more in every case than the best Italians did. Eighty stocks of Italians are in the same yard with them.



OUTDOOR COLONY FOUND ON SUGARLOAF MOUNTAIN, NEAR BOULDER, COLORADO.

Our Caucasians filled the entrances with propolis at the close of the honey-flow, but carried none into supers. The sections and fences came off as white and clean as when put on, needing no scraping.

Veil and smoker were a necessity with Italians all the season, and stings were frequent and severe. With Caucasians no veil, smoker, or hat was used, and no stings received; so we have concluded to Caucasianize all our apiary.

E. A. MORGAN.

Vermillion, S. D., Jan. 11.

A LARGE OUTDOOR COLONY.

BY C. H. HOWARD.

In a store here are several combs built on a bough of a tree. It is the largest outdoor work of bees that I ever saw, for it would accommodate quite a large colony. The store-keeper let me have them to get a photograph made, as shown herewith. He informed me that it was found last year on Sugarloaf Mountain, which is about 17 miles from here.

Boulder, Col., Feb. 14, 1908.

QUEEN-REARING FOR WOMEN.

Many Queens Lost at the Second Introduction in Baby Nuclei.

BY MRS. J. W. BACON.

I have been rearing queens for the last ten years, at first for my own use and then selling a few. About three years ago I sent for the book "Modem Queen-rearing," and a queen-rearing outfit, and have raised and sold some very nice queens. The small nuclei boxes that are seen on the fences are home-made, each holding two Danzenbaker sections fastened to the cover. We always have some partly filled sections that we can use in this way. This saves the time, trouble, and expense of having the small frames filled by the bees. It does not pay to try to start these small boxes too early or before there is a honey-flow; and a good teacupful of bees should be used in each one. I have some of these boxes hung in a hedge. Of the first lot of queens introduced I lose very few. It is not so easy to introduce the second queen.

The plan of caging a virgin queen for a few days in the nucleus before taking the laying queen away is but a beautiful romance. How I do wish it would work! but I find her dead nine times out of ten. I have the best luck with the ripe cells put in a few hours after taking the laying queen away; but I use what I have at the time. If I have virgin queens in the nursery cages I put them in just at night of the day I take the queen away.

However, I introduce the second queen to these little boxes; and when I take these out I let these boxes go for the season, as they will all be robbed out as soon as the honey-flow ceases. I have always lost about half of this second lot. They may be too near the old hives; but it is a

very handy place to have them. We have a number of dovetailed hive-bodies with a division-board in the center, and an opening at the back of one side. This makes two three-frame nuclei. I hardly ever lose a queen from these. They are the best for early and late queens.

I hear some one ask if it pays. If you count the satisfaction of being master of the situation, the benefit of outdoor exercise, and if you love to work with your bees, it pays well; but if you are looking only for the dollars and cents you had better let some one else raise the queens, and run your bees for honey.

Waterloo, N. Y.

EXTRACTED-HONEY PRODUCTION.

Getting the Honey off the Hives; the Locality and Method Wherby Large Quantities of a Superior Article May be Secured in a Leisurely Fashion at a Low Cost.

BY W. Z. HUTCHINSON.

Continued from last issue.

I have already mentioned the use of escapes in the removal of the honey; but when ten-frame Langstroth hives are piled up four and five high, the putting-in of the escape-boards is no light task, especially for one man; and I have tried to plan all of my work so that one man can go to an outyard, all alone, go on a wheel or in a trolley car, or in some such manner, and go on and do the work to advantage without any assistance. I would have a honey-house and full complement of tools and appliances at each yard; then, during the working season, all that has to be carried from one yard to another is simply the man himself. But, to return to the insertion of the es-



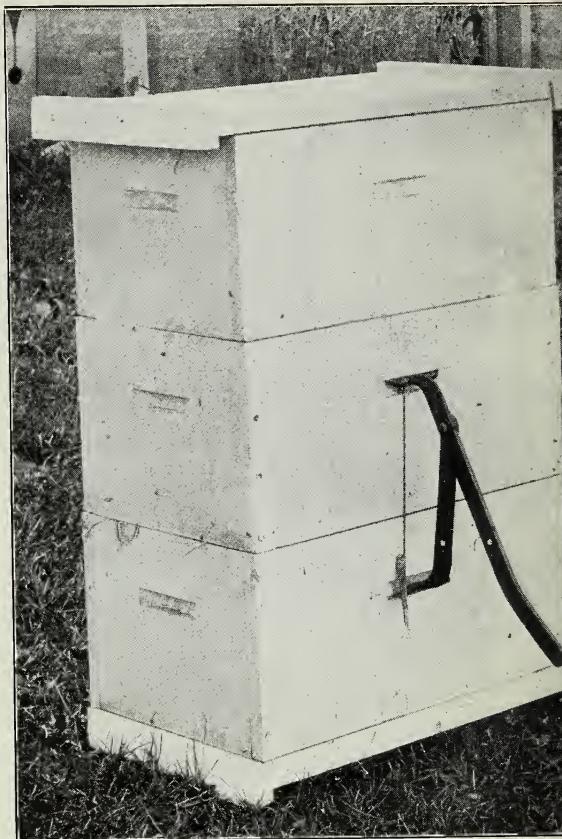
MRS. J. W. BACON'S QUEEN-REARING YARD, WATERLOO, N. Y.

cape-boards. Of course, one end of a super can be raised up slightly, the board shoved in as far as possible, then the super lowered and the board and super shoved along until both are in their proper places; but this is difficult and unpleasant both for the operator and for the bees. A hive-lifter could be used for this purpose, but I have an arrangement that is more easily and quickly put in place and used than would be the case with a hive-lifter. This is simply an iron lever a foot and a half long, with one end widened out or split into two sharp prongs that can be thrust into the hand-hole of the upper hive; then, back about four inches from the pronged end, is an iron support hinged to the lever, and the lower end of this support is also split into two prongs that can be thrust into the hand-hole of the lower hive. When the end of the lever is depressed, the upper hive is raised. The depression is continued until the lever and its support are parallel, when a wooden pin is thrust through two holes that come opposite each other; thus the levers are held in position, the upper hive being elevated about an inch and a half above the lower hive. That is, the hive is raised that much upon *one* side, when I go around to the other side and put in a lifter on *that* side, when the upper hive is held an inch and a half above the lower one, and it is an easy matter to slip in an escape-board and then lower the upper hive into place. In order that the wooden pin may not be dropped or lost it is tied to the end of a string fastened to one of the levers. It is also possible to use these levers when putting queen-excluders in place.

From the description of the levers and their manipulation, it may seem like a rather slow and tedious operation to put them into use; but actual practice shows it to be the opposite. If the weather is warm and the propolis soft, the levers alone can be depended upon to loosen the hive; but if the weather is cool, the hive had better be loosened first with a screwdriver. First, raise the hive a little bit—not quite enough to let out the bees; then drive smoke into this crack, and the bees will be out of the way when the hive is raised.

After the escape-boards are in place I go over every hive carefully, *carefully*, CAREFULLY, to see that there are no cracks that will let bees into the super after the inmates have gone down through the escape. One who has never used escapes will be surprised how small a crack will let in a bee. The best of any thing that I have ever found to stop up these cracks is soft clay. Find some stiff clay, just about such as would be used for making bricks; moisten it, stir it, and work it until it is of just about the consistency of putty. Take a ball of this in the hands and go around and examine all the hives, plastering some of the clay putty into every crack. I never knew the bees to try to dig out the mud, and it soon hardens down as hard as a marble.

At each one of our apiaries we have a place to sleep and cook, even if it is only a tent, and we can go the day before we are to begin extracting, and put a bee-escape under the top super of every hive. The next morning most of the supers will be free from bees, and we can begin taking them



LEVERS FOR LIFTING HIVES
The hive at the left shows the lever in place. The one at t

off and putting the escapes in under the next story. As we begin taking off the honey we also begin warming it up, and, when warm enough, we begin extracting. You will notice that there are really four operations: Putting the escapes in place; wheeling the honey into the honey-house; warming up the honey and then extracting it; and, once the work is begun, it is easy to follow out a sort of routine in the work.

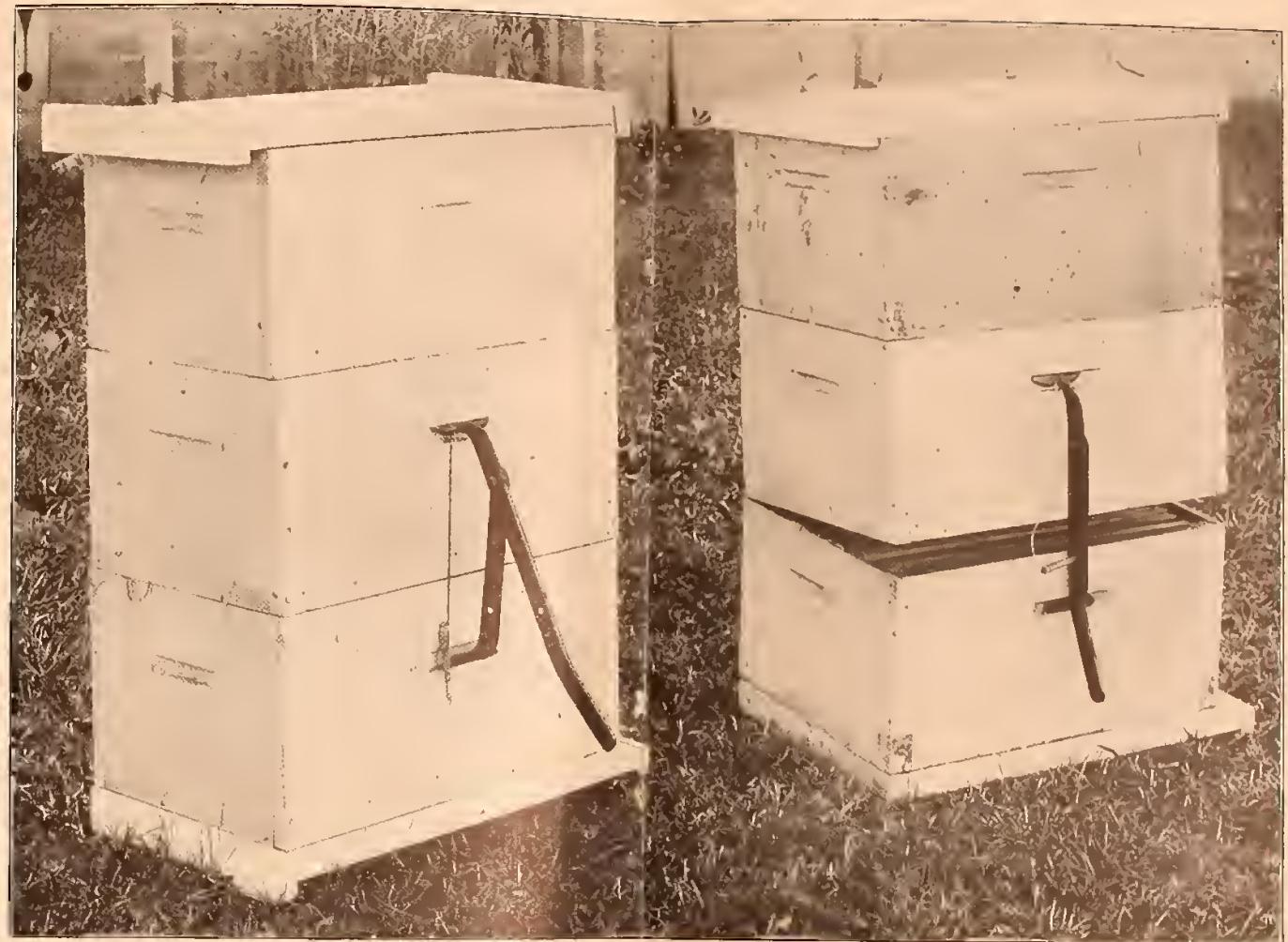
I wonder if I might be pardoned a few words of comparison with the ordinary method of extracting. The hardest and most disagreeable part of the work is that of getting the bees off the combs. At best it is unpleasant for both the bees and the operator. The weather is almost always hot; and the smoking and brushing, especially the latter, make the bees cross; and between the heat and the stings and the mussy character of the work the poor bee-keeper has any thing but a good time. It is not so bad when honey is coming in; but there is always some of this work to be done at the close of the season, when there is robbing to contend with. The use of the bee-escape cuts out all of these unpleasant features. Instead of several men working all day in a sort of mild torment (and sometimes it

cape-boards. Of course, one end of a super can be raised up slightly, then the board shoved in as far as possible, then the super lowered and the board and super shoved along until both are in their proper places; but this is difficult and unpleasant both for the operator and for the bees. A hive-lifter could be used for this purpose, but I have an arrangement that is more easily and quickly put in place and used than would be the case with a hive-lifter. This is simply an iron lever a foot and a half long, with one end widened out or split into two sharp prongs that can be thrust into the hand-hole of the upper hive; then, back about four inches from the pronged end, is an iron support hinged to the lever, and the lower end of this support is also split into two prongs that can be thrust into the hand-hole of the lower hive. When the end of the lever is depressed, the upper hive is raised. The depression is continued until the lever and its support are parallel, when a wooden pin is thrust through two holes that come opposite each other; thus the levers are held in position, the upper hive being elevated about an inch and a half above the lower hive. That is, the hive is raised that much upon *one* side, when I go around to the other side and put in a lifter on *that* side, when the upper hive is held an inch and a half above the lower one, and it is an easy matter to slip in an escape-board and then lower the upper hive into place. In order that the wooden pin may not be dropped or lost it is tied to the end of a string fastened to one of the levers. It is also possible to use these levers when putting queen-excluders in place.

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LEVERS FOR LIFTING HIVES WHEN PUTTING BEE-ESCAPES IN PLACE.
The hive at the left shows the lever in place. The one at the right shows the handle of the lever depressed and the pin in place.

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isn't so very mild) to get the bees off 5000 pounds of honey, one man can put on the bee-escapes in half a day, and really enjoy the work if he uses some lifting-arrangement such as I have described. Don't you see how these two things, plenty of empty combs and the use of bee-escapes, can change the whole aspect of extracted-honey production? They do away entirely with the hurly-burly of hurried extracting in hot weather. Not only this, but this plan allows one man to care for several apiaries all alone. It is a very short job to put on empty supers or supers of empty combs; and it is not necessary to wait until the very minute they are needed before putting them on the hives. By careful watching, and keeping slightly in advance of the work, it is an easy matter always to have abundant room on the hives, even though there are several apiaries to care for. Then when it comes time for extracting there is no special hurry about it; the work at one apiary can be finished up, then taken up at another, and so on, going from one yard to another until the work is all done, no matter if a month or six weeks are consumed in the work.

WARMING UP THE HONEY.
The first year we warmed up the honey with a

base-burner hard-coal stove. This gives a very even, steady, desirable heat; but it is too expensive, and not very practical, to have a hard-coal stove at each apiary in the woods of Northern Michigan; so, last year, we used a Perfection oil-heater, costing about \$5.00, capable of burning a gallon of oil in about eight hours, although much less can be burned. This is the first oil-burning stove, using a wick, that I ever saw that could not be made to smoke. It has a cylindrical wick, and just above the wick is a round plate of iron called the "flame-spreader," and the wick is turned up until it strikes this spreader, when it can go no higher, and it won't smoke, and can't be made to do so.

One end of the honey-house or cellar is partitioned off, making an "oven," as we call it, large enough to hold 50 or 60 supers. We fill this up at night, for instance; light the stove before we go to bed, turning the wick up part way so that the temperature in the upper part of the room will stand at about 100 degrees. In the morning we refill the stove, turn it on full blast, and go to extracting, taking the first supers from the top of the room. As some of the piles are lowered, more supers are taken from other piles and added to these, thus bringing more honey up into the heated "zone." As fast as there is vacant room, more supers are brought in; and a sort of routine is followed whereby one always has hot honey to work on while more is heating.

So far as results are concerned, this plan of heating is satisfactory, but there is one decided objection; and that is, the handling of heavy supers of honey in a hot room; and we have in view the adoption, this season, of a different plan that was suggested by Mr. Elias E. Coveyon, of Petoskey, Michigan. Part of the room will *not* be partitioned off, as before; but, instead, a box, or sort of "well," will be made below the floor, at one end of the honey-house or cellar, in which to set the stove. Across the honey-house, upon the floor, just above the "well" containing the stove, will be built a box, several inches deep, as wide as the length of a hive, and extending clear across the room. Side by side, along the upper surface of this box, are to be openings nearly as large as the bottom of a hive or super. When the fire is lighted in the stove the heat will rise up into this long box and pass along its entire length; and if the openings were left uncovered it would pass out of them into the room; but over each opening is to be stacked up a pile of supers of honey, perhaps four or five supers high, with a cover on the top of each pile. The heat will rise into these piles of supers, and be retained there, warming up the honey—the upper super becoming the warmest first. As the upper super is taken off to extract, the cover will be placed on top of the next lower, which thus becomes the topmost super, and will receive the greatest amount of heat. In this way there will be no lifting and piling about of supers. Once they are stacked up over these openings, they will not be moved till taken away to be extracted, the top one always being the hottest, even though it may be the only one left over the opening. When heating honey in



G. F. JONES' APIARY IN NORTH CAROLINA.

The hives are set up on high foundations to prevent the toads from eating the bees at night.

a room, the great difficulty is that the heat rises to the top of the room, perhaps also melting the combs in the upper tier of supers, while those next to the floor are quite cool—too much so to extract—and there is no way of heating them except to raise them to the top of the room. It is evident that Mr. Coveyou has solved the problem of heating the honey without heating a room, and without piling the supers over after they are once in place.

To be continued.

BEE-KEEPING IN NORTH CAROLINA

Why Bees Rob During a Honey-Flow.

BY G. F. JONES.

We had a fine honey-flow here last season. Our principal flow is sourwood, which gives a very fine-flavored honey, water-white. The flow lasted 27 days. We have two robbing seasons—one in the early spring and one in the fall. On the 23d of September last we had a fine honey-flow, but my bees were robbing the worst I had ever seen them. I should like some of your experienced bee-men to tell me why the bees rob during a honey flow. Our fall flow is from the frostweed, which is the last to bloom here.

I am sending you a view of the home of my bees. I have 16 colonies, which gave me an average of 70 lbs. One of my colonies gave me 140 lbs., which I sold at 17 cts., or \$23.80, from one queen. I have my hives on foundations 8 in. high, and just the width of the hive, and sloping, as you will see in the picture. I arrange them this way so the toads and frogs, which are very numerous here, can't pick up my bees at night. I notice them trying to catch the bees at night;

but when they make a dive they turn a somersault every time.

I have been keeping bees for three years. I started with one colony, and have built up to 16. I have had several reverses and many gloomy days with my bees, but I just consult my old standby, *GLEANINGS*, and it always pulls me through.

Elkin, N. C., Oct. 9.

[You say you were having a "fine honey-flow." We can hardly believe this was possible. It would be our opinion that there was some honey coming in, but not enough to keep all the bees busy. Sometimes during a light honey-flow some colonies will be busy while others will be robbing; but during a honey-flow, if at all strong, all bees will be engaged in gathering honey.—ED.]

MICE IN CHAFF CUSHIONS.

Colonies Prepared by Placing Large Boxes over Paper-wrapped Hives.

BY SARAH B. LEEDS.

These pictures are of bees kept by two young women in Pennsylvania. In order to shelter the colonies for the winter, last year we put a super on each hive with a bag of chaff inside, then tacked builder's paper around the hive, and over all placed a large packing-box—Fig. 1.

The bees were in good condition in the spring, but we found the field-mice had made nests for themselves on top of the hives, and had gnawed off a good deal of the paper under the box, as shown in Fig. 2. Several weeks later we looked into the hives to see how the bees were getting along, and found a large nest inside of one of the

hives, with the mother-mouse and several little ones, the combs having been badly eaten to make room for the nest—Fig. 3. Perhaps this might not have happened in a stronger colony, but the queen had died and the bees dwindled and seemed discouraged.

West Chester, Pa.

PREVENTION BETTER THAN CURE.

Painting Cracks and Entrances to Prevent Robbing.

BY R. M. SPENCER.

I notice an article in the Sept. 1st issue, page 1131, in regard to the robber-trap invented by J. F. McIntyre, who resides only fifteen miles from me. Being a good friend of Mr. McIntyre, and claiming his way of stopping robbers by use of the trap is good, I wish to write only on the subject of the prevention of robbing, which will do away with the use of any trap.

A few years ago I saw a short article in one of the journals in regard to the use of fresh paint as a preventive of robbing. The idea looking good to me I tried it; and to say it was a success is putting it mildly. The directions were to use paint the same color as the hive, but I add a small amount of turpentine. In beginning to open colonies of bees when they are inclined to rob they will show signs of robbing after you have opened a few; and as soon as these signs show I get my paint and brush, and paint all cracks under the cover and between the super and brood-body on all colonies that I have looked into. To see these bees pounce on the cracks of hives they have started on is amusing, because, as soon as they do so, they alight on this fresh paint and get off from it at once; hence they will



FIG. 2.—OUTSIDE BOX REMOVED TO SHOW THE PAPER. WHEN THE HIVES WERE EXAMINED IN THE SPRING, MOUSE-NESTS WERE FOUND.

not hang on any hive in clusters or in long strings as they do when they begin the robbing. This, then, confines the robbers to the hive that you are working with; but as soon as you close

it, and paint all cracks, they will bother it no more, and you can look over a yard of bees by using this method, and have little trouble, and also be painting part of your hives. But if robbing is so bad that the bees begin to get in the entrances I do not close them, but paint all the alighting-boards and about two inches above on the hive-body, as the robbers always alight either on the alighting-board several inches back and crawl



FIG. 1.—COLONIES PREPARED FOR WINTER.

A super containing a chaff cushion was placed over each hive, and building-paper wrapped around it. Finally a large box was placed over all.



FIG. 3.—COMBS EATEN BY MICE IN THE SPRING.
See preceding page.

into the hive, doing the same above on the hive-body. But any of the bees of the hive being robbed, in returning make a straight dive and go into the entrance clear of the paint, and in a short time every thing will be quiet. I know I have saved a great many colonies by this method on my territory; and I think it will work elsewhere as well.

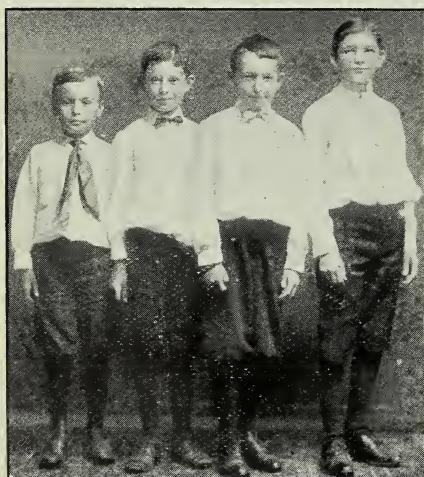
Nordhoff, Cal.

[Prof. H. A. Surface, zoologist, in the employ of the Agricultural Department of Pennsylvania, conducted some experiments in the use of paint to discourage robbers that were hanging around the hives, and his experience was about the same as yours. We may say that plain turpentine will answer almost as well; and a solution of carbolic acid and water painted on would also be nearly as effective. There would be one objection to the use of paint; and that is, that the cracks of the hive might get too many coats, giving it rather bad appearance.

It may be said that robbers should not be allowed to pry around the cracks of a hive; or, rather, we should say they should not be permitted to get into this bad habit. Where robbing is rampant, hives should be opened only while it is rainy or growing dark; or, better still, the operator should get inside of a cage to handle the hive during the day. If hive after hive is opened during the robbing season, and two or three hundred bees are allowed to pounce down on the combs while the colony is opened up, conditions will get so bad as to make work intolerable, with the result that there will be hundreds if not thou-

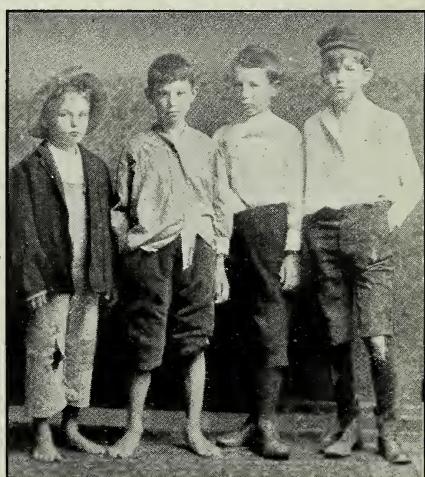
FOR WHICH WILL YOU VOTE ON ELECTION DAY?

Whoso shall offend one of these little ones which believe in me, it were better for him that a millstone were hanged about his neck, and that he were drowned in the depth of the sea.—MATT. 18: 6.



VOTE AS YOU WOULD HAVE YOUR BOY BECOME.

You may vote to license saloons to make a drunkard of *my* boy, but I will never vote to license saloons to make a drunkard of *your* boy.



THE MILLS THAT GRIND.

The ginmill can no more run without boys than a sawmill can run without logs or a flouring-mill without grain. The only question is, whose boy shall it be, *your* boy or *mine*, *our* boy or *our* neighbor's.—See *Temperance Column*.

sands of robbers that will be continually prying around the cracks of the hives and the entrances of weak colonies. There is no advantage in working in this way. The hives should be opened early in the morning or late at night, or by moonlight. One can do very fair work providing an attendant holds a lantern. In a word we may say, be careful to avoid the robbing habit; for when it is once started in a yard it is likely to continue throughout the season, causing no end of annoyance and loss of bees, and a continuous uproar in the yard.—ED.]

IS THERE A PERFECT LOCATION?

Some Observations from a Bee-keeper Who has Traveled all Over the United States and Cuba.

BY LESLIE BURR.

I have been in almost every section of the United States that has the reputation of being a good honey-producing country, and I spent the greater portion of four years in Cuba. While there I visited all of the provinces and worked bees in half of them. What I intend to do now is to show what the conditions are in various parts of the country.

First we will go to California and take a look at conditions there. The bee industry is of such importance that you can hear the prospects of a honey crop the coming season discussed at the hotels in the cities, or at the corner groceries in the small towns.

And then when you see the sage-covered hills, with not a foot of them under cultivation, you say, this is surely a bee-keeper's paradise, and so it would be if the sage yielded every year. But it does not, and the bee-keepers often think they could improve their condition by making a move, and wish that they were in Arizona or some other place where fog is unknown.

In Arizona and New Mexico conditions are much the same, for you are not always sure of a honey crop. Since there is no rain, the bee-keeper has to go where there is irrigation, and he has but one thing to depend upon for his surplus honey, alfalfa. And if you think that an alfalfa region is a bee-keeper's paradise, divest yourself of the thought; for, while there are several crops of hay cut each season, the period of bloom is so short that it takes several months to get as much honey as would be obtained in the same number of weeks in the North.

Then there is that great State, Texas, where you can get any thing you want in the line of climate, where you can travel in a direct line as far as from Chicago to New Orleans, and still be inside of the State lines, where you can spend the winter at Corpus Christi out of doors and then go into the pan-handle region in May and find a blizzard raging.

But, to come back to the question of bee locations. Texas has her share; but do not expect to find them everywhere. There are parts of Texas as large as the average Eastern States where it would be impossible for bees to live, let alone gathering any surplus. And Texas is the same as the previously mentioned localities.

You are not certain of getting a crop. The mesquite is a freak, like the sage of California or or the black mangrove of Florida, in that it yields only when conditions are right.

Possibly, now, your thoughts have strayed to Colorado, and in your mind you have pictured the great alfalfa-fields, with the mass of sweet clover growing along the irrigation-ditches and road-sides. What you will generally find is that a great portion of the alfalfa is cut before coming into bloom. But you argue that it has been proved that it is a loss to cut alfalfa at such early periods, and it is only a question of a short time until the farmers will let it bloom as in years gone by. But such reasoning is mostly "hot air," for, as a rule, where the early cutting of alfalfa is practiced the hay is used for feeding sheep, and alfalfa for sheep has to be cut before coming into bloom.

Then there is such a thing, in parts of Colorado, as overstocking. I know of one crossroads where there are three apiaries almost within a stone's throw of each other. Each of these apiaries belongs to a well-known bee-keeper. There is another section of the State where there are ten thousand colonies within a space of twenty miles square, and the size of the apiaries is such that a Californian or a Cuban would hardly feel justified in calling them an apiary.

So much for various parts of the country. But do not think that I mean it is impossible for one, no matter where he is, to be able to benefit himself by a change of location. Not a bit of it. I believe that, to make a success of bee-keeping, one must have a good location, and that the man and hives are secondary. But what I do want to say is, that nowhere is there a great bee paradise which one can find by moving one or two thousand miles; and that he who wishes to better himself can most likely do so just as well by moving fifty or sixty miles as a thousand; for, from my own observations, there are still a number of good locations in the North that are not overstocked. The old Spanish explorers sought for their visionary Eldorado, but it was never found; and so it is with the bee-keeper who thinks that somewhere there is a perfect bee country. It does not exist.

Valparaiso, Ind.

PERFECTION IN BROOD - COMBS WITHOUT WIRE OR SPLINTS.

BY WALTER S. POUDER.

Having received many inquiries about wiring, and using splints in brood-frames, and as many of these inquiries are from readers of GLEANINGS, I should like to explain the method which I have found most satisfactory. In short, I use neither wire nor splints; but having my combs perfect is one of the hundred things that I am "cranky" about. I have had considerable experience in extracting and in shipping bees, and once thought that wiring was absolutely necessary; but with horizontal wiring I found bulged combs, and in vertical wiring the wires along the top-bar were very unsightly to me, and the bees seemed to want to store propolis along these wires, and to me the work of wiring always seemed very tedi-

ous. I use full sheets of medium brood foundation, but I cut it down so that it does not reach the end-bars by half an inch, or the bottom-bar by $\frac{3}{4}$ inch. The whole secret seems to be in giving these full sheets to the bees, and I do this by inserting one frame at a time in the center of my hives, allowing the bees to have an equal force on both sides of the foundation at the same time. If foundation should touch the end-bars the bees would proceed to fasten it before it could hang plumb.

Some one may ask, "How about extracting from such combs?" I would not extract from them at all, but would work new combs into the brood-chamber and always extract from combs that had been used for brood at least one season. In shipping nuclei I select such combs as have seen at least one year's service, and I have never had reported a single instance of a comb breaking down.

I have also considered it desirable to have my combs built to the bottom-bars. To accomplish this I cut a good comb lengthwise into strips about $\frac{7}{8}$ inch wide, using a sharp thin-bladed knife. I then lay a comb on its side and trim off about $\frac{1}{4}$ inch from the bottom, and then insert one of the strips and place it in the second story of the hive during a honey-flow, and within 24 hours the work is completed. On this plan I have a stock of combs that are more beautiful than any wired combs I have ever seen.

Indianapolis, Ind., April 25, 1908.

THE IMPORTANCE OF HAVING QUEEN-CELLS FINISHED BY STRONG COLONIES.

BY JOHN M. DAVIS.

I do not wish to pose as a critic; but I beg to call attention to Mr. Wm. W. Case's method of keeping "the apiary supplied with a class of queens having no superior on earth," page 363. His selection of breeding stock is good, but the after-manipulation is ruinous. He says, "When they swarm, remove to a new stand the hive from which the swarm issued. Hive the swarm on the old stand, giving it, say, three combs of brood from the old stock." First, if I were going to use the queen-cells (swarming-cells) from a hive from which a swarm had issued I would add bees to it rather than move it off the old stand and thus deprive it of the field bees that should return to it. Not satisfied with thus depopulating the cell-building colony, Mr. C. takes three combs of brood from them and gives to the new swarm, and does not even tell us to shake all the bees from these combs back into the parent hive. Not satisfied with this second depletion of the cell-builders' force, he then divides the remainder into three nuclei and keeps them building queen-cells for the next seven days. I would not use a queen-cell from a hive thus moved from the old stand and weakened after swarming, to say nothing of dividing it up, as does Mr. C., and allowing these small nuclei, in their weakened state, to care for queen-cells seven or any number of days. If you desire to use such cells, do not fail to keep

the old hive full of bees, and do not divide it into nuclei until seven or eight days after swarming; then you will have queens that are serviceable, and developed under favorable conditions. These surplus cells can then be removed safely and given to other nuclei, as they will be (as a queen-breeder would say) ripe. In this condition they can be handled with much less damage to the inmates. The owner of half a dozen colonies can use this method as well as the extensive breeder. The latter, however, necessarily does not depend on swarming-cells. An *unripe queen-cell* should never be placed in a nucleus. I often have the young queens emerging from cells while distributing them to nuclei. These queens have had the benefit of very strong colonies from start to finish. Long experience has taught me that this method develops the best queens.

CLIPPING QUEENS' WINGS.

Lean the comb against the hive; catch the queen's wing between the thumb and index finger of the left hand; place the point of the scissors against the index finger, with the wing between the blades, and cut. The queen clings to the comb, and there is no danger of amputating the leg.

TWO QUEENS IN A TEN-FRAME HIVE WITH A SOLID DIVISION-BOARD, PAGE 372.

For many years I have used a thin division-board in ten-frame hives in early spring to secure an abundance of nurse bees for building queen-cells. A zinc excluder is fastened to the top of the division-board by small bent wire nails so it can be removed at will, and brood from the brood-chamber exchanged for combs from which the brood has mostly hatched in the super. This gives practically ten combs for each queen, and at the same time keeps the increase in one two-story hive, giving the best conditions for cell-building in a super *a la* Doolittle. After the season is so far advanced that one queen and her bees can keep the proper strength for this work, one queen and the division-board are removed. I have lost but one queen by this method, and this was from a defect in the division-board. When first prepared I place one sheet of newspaper on the excluder; punch a few small holes through it so that a few bees can come up from either side of the division-board. Next I select good worker combs partly filled with honey; bruise some of the cappings and place them in the super. The bees will remove the honey from the bruised combs to the lower chamber, working peacefully together. The paper will soon be cut away by the bees, and it will be practically one colony of bees, and the exchange of combs can be commenced and queen-cells given them, after having been started by either of the methods practiced by queen-breeders. I can see no reason for wishing to keep two or more queens in a ten-frame hive after the season has so far advanced that colonies should be practically strong, unless it should be that there were some colonies too weak to work in supers. In that case the two queens can remain, and their progeny store honey in the same super. Any queen unable to keep a ten-frame hive full of brood should have her head pinched.

Spring Hill, Tenn.

HEADS OF GRAIN

FROM DIFFERENT FIELDS

YOUNG BEES NOT ABLE TO FIND THEIR WAY BACK TO THE HIVES.

[In our Feb. 15th issue there arose a little discussion between Dr. Miller and the editor. The question came up over the use of the Miller bee-escape placed on a pile of supers that had been removed from their respective hives with the bees in them, with a bee-escape on top. We took the position that, when such supers were remote from their hives, there would be young bees that could not fly and would be lost. Dr. Miller raised the point whether such young bees would ever desert the brood and go above. At any rate he had practiced the plan much, and had experienced no such loss. Not being entirely sure of our ground we called for reports. The only one we have received sustains the editor, and here it is.—ED.]

In your note on page 200 of Feb. 15th you ask for an expression from subscribers in regard to bees being lost from supers when taken away from the hives before bees are out. Last summer I took two supers off before the bees had all gone down; and, it being time to go to work, I took them to my shop, about ten rods away, where I placed them on an escape-board, gave them a little smoke to start them, and left them just outside. The bees came out and flew around as if lost, and finally settled down in little bunches; and those that I did not carry back died. I think that all the old bees had gone down through the escape before I took the supers from the hive; and as the young ones had never located the hive they were lost.

ALBERT I. MILLS.

Ignacio, Colo.

[One swallow doesn't make a summer, and we should be glad to hear from others. The question is important; for if Dr. Miller's way is wasteful of bee life we should know it. If it is not, it is a convenient method to use at times. In the multitude of counselors there is wisdom. So, bee-keeping friends, especially those who know, we should like to hear from you. The editor is not particularly anxious to be "in licated" at the expense of truth; but if he is right he would like the satisfaction of telling Dr. Miller, "I told you so."—ED.]

REMOVING BEES FROM BUILDINGS WITHOUT DOING ANY CUTTING.

My near neighbor had some bees in his house for several years. They entered over the front porch, where the "L" joins the main part of the house. I thought I would give them a trial last spring, so I stopped all places of entrance except one. Over that I put a bee-escape. Up against this, on May 8, I put a hive with one frame containing some brood, larvae, and eggs. May 11th I took the hive home, about 200 feet, and removed the bee-escape. A few of the bees returned, but enough stood by the hive to build up into a strong colony. May 16th I put a second hive up against the bee-escapes, and captured a much larger swarm which I removed May 31. June 8th I put on the escape again, and put up the third hive, captured another good swarm, which I took off July 1 and moved them three miles out of town. These three swarms have all built up strong, and the last two made some surplus honey.

All three swarms had two frames of comb, and only starters in the other six frames. In each

hive the combs have all been drawn out and filled with stores for winter.

But the end was not reached yet. There were still some bees left in the house. July 8th I put on the bee-escape, set hive No. 4, and soon had a lot of bees, and they drew out the comb and filled it with brood and honey. I left the bee-escape on for seven weeks. I thought I would get them all this time. I then took it off and left the hive so that the bees could go in and bring out the honey if there was any in the house.

After awhile something happened up there. A war was on, and in a few days I found the hive did not contain half the bees. I could not find a queen, and brood was wanting. I think there was 30 to 40 lbs. of honey in the hive. I ordered a queen to put in, and on going to the hive about a week after I found the bees nearly all gone, and the honey all transferred to some other place. It is possible they went back into the house. If so I will give them another trial this spring.

GEO. H. EASTMAN.

Storm Lake, Iowa.

[Our correspondent should have trapped the bees out into one hive, or, at most, two. Using so many different hives entailed a large amount of work, which apparently did not succeed in the end in accomplishing the main object—to get all the bees out of the house. It is very evident that the bees from the last hive went back to their old quarters. If this hive had been removed to a location two miles away there would have been no returning.—ED.]

EARLY OR LATE TAKING OF BEES OUT OF THE CELLAR; SOME INTERESTING FACTS THAT SPEAK FOR THEMSELVES.

Last Thursday, April 23d, was cold in the morning (about 35), and it got warm rapidly. At noon the thermometer stood at 70, and I said to myself, "I almost know Mr. Kinyon will be working with his bees, and after dinner I will go up and see him."

After dinner I got into the auto, and in about twenty minutes I was at his place, and, sure enough, he was working with the bees with his brother. He hallooed to me and said:

"I will be through with this hive in a few moments."

He said he had just begun working with them, and added that he would get me a veil. He tied one around my hat, and then we sallied forth to see what condition the bees were in. He said, "Here, take this cover for a seat." He then opened a hive, remarking as he did so, "These bees, the first two rows, were taken out of the cellar March 16th. After we go through these we will go through two rows that were taken out April 16th, and I want you to note the difference."

The first hive opened had considerable brood, and was doing nicely. Hive after hive was opened, and we found them in pretty good condition so far as brood, strength, and honey on hand were concerned. We soon got over the two rows. "Now we will look over those taken out April 16th."

We opened the first hive, and I immediately remarked, "Why, they haven't any brood."

Mr. Kinyon said, "I guess they are queenless. No, here is a small patch."

We kept on through these two rows and found each colony had a very small lot of brood. Most of them had no sealed brood.

"Well," I said, "it looks as though the first lot of bees were a good lot ahead of the April 16th lot. Those last set out *may* go ahead of those taken out March 16th."

"Not so," said Mr. Kinyon. "The early lot has brood hatching, and in the course of two or three weeks will be very strong. Those taken out April 16th will, on the contrary, get weaker for the next two or three weeks."

"You are correct in this," said I, "and it will be best to conclude that bees taken out by April 1st will do the best."

Mr. Kinyon then said, "Make it the last week in March."

I said, "Yes, we will say the last week in March if the weather is right."

He then told me that he had worked for Mr. P. H. Elwood, and he made a practice of taking out some early and some late, and found after a course of a few years that those taken out early did the best. Mr. Elwood now takes out his bees as early as possible. In this I think he is correct after being with Mr. Kinyon and seeing the difference in the amount of brood in the different lots.

F. A. SALISBURY.

Syracuse, N. Y., April 27, 1908.

BEES THAT CAP THE COMBS "WATERY" ARE HUSTLERS; SHALL WE PINCH THE HEADS OF QUEENS PRODUCING SUCH BEES?

I read with no little interest the article from the pen of Mr. J. A. Crane, page 429, on breeding of queens; and, as you request expression of opinion of your readers regarding a particular point raised by him, I wish to say that I do not think I could have expressed my own ideas on the entire subject better than he has done—especially that regarding "greasy" sections, to which you refer. I have written up the matter of greasy or watery sections, as they are sometimes called, several times since my bee-keeping experience began; and but few of the "old heads" in the business seemed to take kindly to my theory. It is gratifying to me to read an article from one who has had long experience in the business coinciding with me in this matter. I have had several queens whose bees capped their honey "greasy," and they were all hustlers. The hive during the busy season was kept full of workers, and hot. Such a queen is always a prolific one. When the question of disposing of such a queen has been considered, and advice has been given to "pinch her head," I have said, "No, do not do that, but send her to me. She is probably the best queen in the yard."

Evanston, Ill. WM. W. WHITNEY.

PROPER WEIGHT OF FOUNDATION FOR THE SPLIT-SECTION PLAN.

I have received several inquiries from bee-keepers who wish to try my method of putting foundation in sections, asking what weight to use. Perhaps I can best answer the question by telling them what *not* to use, since I have as yet used only the extra thin in sections; however, owing to the trouble I have had with it for the past two or three seasons, I shall not use it again. I

don't yet know whether I shall prefer the thin or the medium brood.

The trouble with the extra thin seems to be that there is not enough side wall, and the bees will often remove what little there is, leaving a smooth sheet of wax; and I find an occasional section with one side full of honey and only a plain sheet of wax on the other.

Since I do not find this in frames where heavier foundation is used in the same super, I lay it to the foundation; therefore I would advise beginners to use nothing lighter than thin in full sheets.

J. E. HAND.

Birmingham, Ohio.

[Medium or even light-brood foundation would, in our judgment, be altogether too heavy for use in sections. Nothing heavier than thin super should be used. We would urge the use of extra thin as being not only cheaper, but causing less of midrib in the comb. Mr. Hand's experience, to the effect that the bees will remove the side wall of this light weight, would seem to be very unusual, or at least we do not remember to have read of any reports of it before. We should be glad to hear briefly from a large number of our subscribers on this point.

Objection on the part of consumers has been raised, that comb honey of to-day has too much of midrib or "gob," and we believe that bee-keepers should, so far as possible, use the extra thin. This is an important subject that will bear discussion.—ED.]

THE MASSACHUSETTS SOCIETY OF BEE-KEEPERS; WHY ONE SHOULD REAR HIS QUEENS.

The fifth regular meeting of the Massachusetts Society of Bee-keepers was held in the Ford Building, March 7, with 43 members present. Our speaker was Mr. Chas. S. Blake, of Ashby, Mass. He gave a very instructive paper on queen-raising among small bee-keepers. He laid particular stress upon the fact that, by great care in selecting, the stock can be better controlled than by introducing queens from abroad. He considered that a person with only ten colonies could raise his own queens with profit. Various devices were shown us, by means of which at slight expense the queen-cells could be arranged, and nursery-cages used; also by which an ordinary eight-frame hive could be divided into four compartments for nuclei.

Mr. Blake announced to us that foul brood had made its appearance in Brookfield, Marlboro, and Leominster, and warned us to be on the lookout.

The death of Mr. Henry Alley, of Wenham, Mass., a veteran bee-keeper, and breeder of the Adel queens, and an authority on the subject of bees, was announced. The meeting closed at 4:15 P.M.

Belmont, Mass.

X. A. REED.

SPLIT SECTIONS USED AND NOT LIKED; CARTONS FOR COMB HONEY; BEES ROBBING OR HELP-ING EACH OTHER.

I have used split sections, and the editor, in his comments some time ago on such sections, spoke for me. The split section is all right until taken from the hive. I have but one life to live, and I do not want to take part of that in explaining to people why I took that nice white polish-

ed section and made that ungainly saw-cut through it, and then plastered the crack up with beeswax.

The proper covering for a section of honey is the pasteboard carton; and if this has a sheet of mica (singlass) in the front it renders it transparent enough to show the honey and its grade to good advantage.

On page 228 our German friend says, "If a strong colony stands next to a weak one during a rich honey-flow, and succeeds in filling its own chamber to overflowing, it happens now and then that the strong colony, having no further room, will help to fill the hive of the weak one in the most peaceful way." Bees may do that way in Germany, and perhaps some of your readers may be able to vouch for the same thing here, but I can not. I have handled bees for 25 years, and find them more prone to rob each other than to help. I wish we *did* have a race of bees that would equalize the stores of the whole apiary. It would save lots of work on the apriarist's part, as we would then know the condition of each colony as regards stores without having to look it over.

BERTHA M. TIMONEY.

Smyrna, Me.

HOW TO LABEL HONEY PRODUCED FROM TWO OR MORE SOURCES.

Will you please give me your opinion whether we should lay ourselves open to infringing the pure-food laws by marking our shipping-cases "Pure alfalfa comb honey" when only a portion of the honey is from alfalfa, and by far the larger part from melilotus.

H. F. HART.

Alenville, Ala.

[Under the law you would have to label the honey "Pure alfalfa and melilotus honey." If, on the other hand, the honey was largely alfalfa, enough so to give distinctly the alfalfa taste, we would see no objection to calling it alfalfa. It is the *spirit* of the law, not the exact letter of it, that should be observed. If a honey contained white clover, sweet clover, and alfalfa, it would be proper to call it a "clover" because all three are clovers. So long as we do not misrepresent on the labels we do not violate the national law.

—ED.]

MATURE BEES DYING IN THE SPRING.

I have nearly 200 hives of bees, and have always had good luck until this spring. About ten days ago one hive became diseased. The bees would drag a great many out. It seems they are paralyzed. Now, I have about seven hives affected. What can or should I do to prevent spreading? Inside the hive seems healthy; they have a good queen and brood, but, of course, they will soon dwindle away.

Dover, Ky.

D. F. WEAVER.

[This case may be similar to the one described by A. L. Youngman on page 1568, 1907. Although the trouble in the two instances was not noticed at the same time of the year, possibly the other conditions might be enough alike to bring about the same result. On page 233, this year, Mr. Wm. McEvoy lays the blame on the honey, and it is just possible that the honey is to blame in this case. If any spraying has been done during fruit-bloom in the locality it would look like a clear case of poisoning. At the last convention

of the Northern Michigan Bee-keepers' Association quite a number reported cases somewhat like this, and there seemed to be no explanation for it. Since the mature bees only are affected, it would seem that the trouble must be similar to some such disease as bee-paralysis, dysentery, or poisoning. Who has had experience that will throw some light on the matter? See the following from Mr. Allen:—ED.]

PARALYSIS OR DYSENTERY.

In the Dec 15th issue is a letter from Mr. A. L. Youngman, headed "Paralysis or Dysentery." I had the same trouble start in on three of my hives here last fall. I started in to feed them, Sept. 7, after I had all supers off. By the 14th I was through feeding. I closed the entrance to about 6 inches by $\frac{3}{8}$, and then the bees commenced to die. They would crawl out on the board, bloated as if they were ready to burst open. This kept up for about two weeks, and half of the workers from three of the strongest hives I had were dead. On opening some of them there was a thick brown paste, and near the body there would be a little water. I had these hives covered over with paper and carpet. I thought my bees were too warm, so I removed all carpet and paper, and opened up the full entrance, making it $\frac{3}{8}$ by the width of the ten-frame hive. Three days after, there were no more bloated bees on the board.

As Mr. Youngman stated in his letter that, about the time of his trouble, there was a spell of two weeks of bad weather, it may have been very wet and warm in the hives, and that started the trouble. He did not state if he had $\frac{3}{8}$ or $\frac{1}{2}$ entrance

GEO. H. ALLEN.

South Boston, Mass.

GOOD YIELDS WITH RAPID INCREASE, BY AN AMATEUR.

In 1903 we started with 11 colonies in Dovetailed hives. We increased to 27, and our surplus was 136 lbs. per colony. In 1904 we increased to 62, and surplus was 127 lbs. per colony. In 1905 we started in the spring with 51 colonies, having lost 11 during the winter. We increased to 135, and our surplus was 66 $\frac{3}{4}$ lbs. per colony. In 1906 we increased to 252, and our surplus was 62 lbs. per colony. In 1907, the season just passed, we increased to 300, and our surplus was 88 lbs. per colony. We raise all our own queens. When I say *we* I mean my wife and three daughters, ranging in age from 7 to 17, and myself, we doing all the work. The 1907 crop brought \$1742. Our expenses were \$635.00, leaving a profit of \$1107.00. We do not expect to do so well every year, as that was a favorable season.

Maxwell, Texas.

M. E. VAN EVERY.

THE HONEY-FLOW IN MANATEE CO., FLORIDA.

We have been having the heaviest honey-flow from palmetto for ten years. One colony on scales brought in 50 lbs. in four days, and 80 lbs. in ten days. I expect 20,000 to 30,000 lbs. I have extracted 13,000 lbs. now, and am just starting on another round.

E. B. ROOD.

Bradenton, Fla., May 15.

NOTES OF TRAVEL

BY A. I. ROOT

At the close of our Thursday-evening prayer-meeting somebody nominated A. I. Root as delegate to the Congregational conference in the neighboring town of Wellington. Well, we have been having a lot of rainy days. We bee-keepers notice it because we are so anxious to have favorable weather for the bees to work on fruit-bloom. By the way, if there is any one season of the year more than another that gives me animation and inspiration it is the time of fruit-bloom.

While the conference was held only twenty miles away, to go by rail would necessitate a roundabout trip. Owing to the bad roads my automobile had not once been out of town; and when Ernest learned that I was going to take my chances with my auto he protested that I would get stuck in the mud, and have breakdowns, etc. Instead of arguing the case with him, however, I slipped off without his knowing it. Truly the roads *were* bad. Had the machine not been overhauled, every thing screwed up tight, and prepared for the rough-and-tumble trip, it would not have stood the racket. Another thing, when I undertake a difficult trip like this I take off the top, the mud-guards, back seat, and, in fact, get rid of every pound of superfluous weight. Had the roads been good I would have taken our pastor along; but as it had rained the day before, I told him he had better not risk my kind of transportation. As it was, I found several places where the roads were so soft that, had I not managed skillfully, my machine would have gone down to the hubs; but by backing up, and then going ahead, and repeating the operation several times, I managed to get up momentum enough to climb out of the mire on top of the partly dried crust. I allowed two hours for the twenty miles under the circumstances. I got up to the church just about fifteen minutes before the opening of the meeting. I can not take space here to tell you of the excellent addresses we had. Notwithstanding I was intensely interested in all of them, I found it a rather severe task on my strength to listen to five good addresses, one after another, without any intermission. I am afraid I actually longed to get back into that automobile, notwithstanding the bad and muddy roads.

I found by the program that the session did not open on the second day before ten o'clock. I also knew there was one of the finest poultry-farms in Ohio not many miles away; and so between three and four o'clock next morning, just as soon as there was a glimpse of daylight, I was off with my automobile again. By the way, I have always enjoyed getting up in the morning in springtime, before anybody else is in sight. At such times I feel something like Robinson Crusoe in the old poem:

I am monarch of all I survey,
My right there is none to dispute
From the center around to the sea
I am lord of the fowl and the brute.

Yes, I used to enjoy taking a walk on foot, hours before anybody else was stirring. Later I told you about my early morning bicycle rides;

but I have never found any thing to compare with an automobile ride early in the morning, when the fruit-trees are just coming into bloom. There is one wonderful advantage; the roads are clear of all vehicles; and this is especially important when there is only a narrow track of good road. On this morning especially I let the little Olds auto go like a young colt; in fact, I became so intoxicated with the surroundings and the beautiful workings of the machine that I forgot to watch the glass cup containing the lubricating oil. The oil gave out before I knew it, and the water in the tank was boiling furiously as a consequence. I had to walk quite a piece to a farmer's to get a pail of water. When I went to fill up the oil-cup I found the little pump that we use for filling it had been left at home. How much trouble a little forgetfulness on the part of elderly people like myself sometimes occasions!

Not long after my mishap with the automobile I happened to glance at a farmer's home just ahead of me, and was astonished to see several long rows of chaff hives—perhaps over a hundred in all. I said to myself, "Why, how in the world does it happen that here is a bee-keeper with all these nice hives in this locality, and I did not know any thing about it?" And then as I began to take in the surroundings, things began to look familiar, and I said, "Why, this is Dan White's place as sure as I live." It was still early in the morning, and Mrs. White informed me that "Dan" was somewhere in the back yard. When I explained that my time was very limited, and that I would have to hurry off, friend White said, "Now, Mr. Root, you certainly must stop long enough to go and see my strawberry-patch."

"And are you still growing Gandy, as you used to do?"

"Come and see."

He was soon by my side, and we ran down along the railroad for perhaps a quarter of a mile, and then got over into a field, across a beautiful patch of clover indicating the fertility of the soil; and then we found the Gandy strawberries just showing their beautiful green leaves through the straw mulching. There were two acres in the field, and another field nearly as large right alongside had been carefully prepared and marked out for setting out plants. The straw mulching was not yet disturbed except what disturbance the wind had made during the winter. In some places there was a little too much straw, and in others not quite enough. Mr. White said he would have to get right at it and go over the field carefully.

"Friend W., have you got a man in your employ who will take off just enough straw and not too much, and put on just enough where it is needed somewhere else, and not too much?"

"No, Mr. Root, I have not got such a man, and I do not know where to find one. I am going over that two-acre field, and do every bit of it myself."

Some years ago the folks at our Ohio experiment station at Wooster told me the Gandy strawberry was all right, and that it was about the handsomest and best-flavored strawberry in the world, but they added that it did not bear enough berries. Now, Dan White, after years of experience, has got hold of the secret of making it bear enough berries to pay. He sold his

whole crop last season to Chandler & Rudd, of Cleveland, at an average price of 15 cents per quart, and this at a time when ordinary berries were bringing only from 8 to 10. To do this he has carefully trained pickers. The berries are all assorted; but he says the small quantity of culs cuts a very small figure. He sells those around home for what he can get. Now, that two-acre field was as free from weeds as the small patch in your garden. If I am correct, the ground is well underdrained. Besides this, I judged by the looks of the creek that ran along adjoining the ground that there is a gravelly subsoil there. This piece of ground was originally too wet for strawberries or for any thing else. Friend White had, at considerable expense, had the stream straightened and cut down low enough to get ample and perfect drainage for his strawberry-garden. In years past he grew a great many red raspberries; but now he has concentrated his attention on Gandy strawberries and almost nothing else; in fact, he said that one reason why so many of those nice-looking chaff hives had no bees in them at present was because he was putting so much of his energy into the strawberries. There you see it again, friends. Where a man settles right down on one thing, and gives it his undivided attention, he is enabled to astonish the neighbors and perhaps the outside world with the possibilities along that line, even if it should be so simple a thing as strawberries, and just one perfect variety, the Gandy. If I am correct, he has no other strawberry at present on his farm.

I had planned to get back in time for the opening of the conference; but letting the oil get out hindered me nearly an hour; and letting the machine get almost redhot necessitated going to a repair-shop. This took more time; but while I was giving directions for repairs somebody put his hand on my shoulder. It was my good friend Charles McClave, proprietor of the Linwood poultry-yard. Now let me digress a little:

I have been many times greatly disappointed when visiting poultry establishments. Yes, some of them costing many thousands of dollars were not, to my mind, pleasant to look at. I suppose it is almost impossible to keep poultry-houses tidy and attractive at all times. Chickens of all ages are fearfully heedless and careless of appearances. By the way, I am wondering if somebody will not eventually give us a poultry-house that will cost us so little we can afford to burn it up every little while and get a new one; and I think we might at least have hens' nests that we can burn up say once a month or two, and get new ones in their place. Well, perhaps poultry-houses can not be kept as tidy as Mrs. Root keeps her kitchen, for instance; but I am sure there is no need of having poultry-yards destitute of every thing green, and looking so untidy that you want to get away from them as soon as possible.

Now, keeping this in mind let me tell you that the Linwood poultry-farm, containing 165 acres, satisfied me in one respect at least. The numerous yards were all covered with beautiful green grass. The number of fowls, if I remember correctly, was not too great in any one yard to keep the grass down. Now, this may be rather expensive business; but Mr. McClave has, perhaps, some of the highest-scoring birds in the world; and his stock is worth so much money that it

would be ridiculous to keep it in cramped quarters. I was so much pleased with the grassy runs that I wrote and asked him about it. Here is what he says:

The grass in our poultry-yards is blue grass and timothy mixed. Regarding the number of fowls that can be kept on an acre, I will state that, if well seeded before the fowls are penned, I think we could keep 100. It might be necessary to keep them off early in the spring until the ground settles, as they dig it over pretty thoroughly husting angleworms, which would destroy the grass. We have always endeavored to keep all our yards covered with grass at all times. It is much better for the fowls, and gives the yards a better appearance. Growing vegetation also takes up any decomposed matter which may be scattered over the ground.

CHAS. MCCLAVE.

New London, Ohio, May 5.

I did not have time to look over all the different breeds of fowls. I believe he endeavors to keep almost every thing that is called for. What interested me most just then was the ducks, geese, and turkeys; and I confess I was not aware before that the wild geese and wild ducks of America were kept anywhere in a state of domestication. I have all my life been curious in regard to the wild geese that fly over our heads; and when we went to the back part of the farm where he has such a poultry-yard, comprising about forty acres of timber kept mainly for this flock of wild geese, I was delighted you may be sure. If these American wild geese are not the handsomest fowls in the world they were to me just then the most interesting. The yard is surrounded by a very high wire fence, and the wild geese have the last joint of one wing clipped off while they are young. This prevents them from getting over the fence, but in no way impairs their beauty. These beautiful fowls, like the human family (or at least most of our own race) object to polygamy. Each gander chooses his own particular goose, and, if I am correct, sticks to her through life. I hope so, any way. When we came near them the gander uttered a peculiar note of protest. I did not understand the language, but I took it that he and his good wife were not particularly glad to see us. I think friend McClave says he has kept wild geese for about thirty years. The first one he got was wounded in the wing by a hunter; then by advertising he found a mate for this goose and succeeded in raising some goslings. Then he advertised for wild geese caught alive, and finally got quite a flock. He is buying and selling wild geese all the time. Said I, "Now, friend McClave, I want you to tell me how many eggs these native wild geese and ducks lay, compared with our modern improved breeds. Do the wild fowls ever come anywhere near 200 eggs a year?"

"Oh! no, no, Mr. Root; nothing like it. Why, if I get two or more settings in a year from a pair of wild geese I do exceedingly well."

In the first place, the goose lays only five or six eggs when she wants to sit; and one has to be extremely careful about meddling with the eggs or nest, or the fowls will be frightened away and the hatch be lost.

"Just a few days ago some schoolchildren got over where I keep my flock of wild geese," Mr. M. continued, "and carried away seven eggs that were about ready to hatch. Those eggs were worth more than a dollar apiece to me, and yet they were of no kind of use to those schoolchildren."

Perhaps I should add that that patch of forty

acres has a little flock of valuable sheep on it, as they do not interfere with the geese. He had also a very pretty flock of buff Orpingtons in the same yard. The wild ducks were also especially pleasing to me; but I was in such a hurry to get back to the conference that I did not see them as much as I would have liked. If I remember correctly, they are allowed to fly; but they have been so well trained to come back to their regular feeding-place that they seldom get lost. Besides the wild ducks and geese there are geese and ducks and turkeys from all over the world; and not only are full-grown fowls offered for sale, but eggs for hatching. Instead of an hour or two one ought to have a whole day to look over the wonderful things to be seen at the Linwood poultry-yards, New London, Ohio.

I told the man who repaired my machine that, inasmuch as I was a delegate to the Wellington conference, I would have to have the auto at a certain hour, and it was already time for me to start out when I got around. By the way, it seems to me there is a great opening for bright young mechanics in the way of repairing automobiles. When I told this man, Mr. Chas. Hartman, of New London, that my time was quite limited he at once got right down under the machine, in the dust and dirt; and before he got through, it was not only dust and dirt but dirty water that got almost all over him, for he had to remove the rubber tubing attached to the coils. His charge for doing this work was only 40 cents an hour. He did not get in any thing for "extras," and he did not make any part of the machine *worse* instead of better; in fact, I think it never ran nicer as it "galloped" up hill and down toward my Medina home.

I suppose I ought not to tell it; but after all of Ernest's caution to me he took his larger machine (and *heavier*) and followed me, and had to get some farmers to bring rails and pry his machine out of the mud where I got through safely the day before. This is one of the advantages of a light machine after it has been stripped of all extras, and I think it is a *little* advantage too to have a man in the seat who has run the machine more than ten thousand miles, even if he is almost 70 years old. Just one thing more:

The man of age and experience, especially if he is a Christian man, is not so likely to annoy or interrupt the regular and legitimate traffic of horse vehicles on our nation's great highways.

TEMPERANCE

Whoso shall offend one of these little ones which believe in me, it were better for him that a millstone were hanged about his neck, and that he were drowned in the depth of the sea.—MATT. 18:6.

More than six months ago, when glancing over the anti-saloon periodicals from different States my eye caught on to a picture of some boys, in the *Missouri Issue* for Sept. 6, 1907. I looked at the picture and read the matter above it and then the matter under the two pictures, and meditated over the matter for a Home paper in our journal. The paper got covered up, however, with others and got out of sight, and so I rather forgot about it. A few days ago, one morning while at breakfast, while reading our daily Bible lesson my

eye struck on the words of our text at the head of this talk, and I recalled the picture that was still lying on my desk somewhere; and for the first time it occurred to me that this text had direct reference to the liquor-traffic, the traffic in cigarettes, or any other business that will lead our people down to death and ruin instead of up toward righteousness and heaven. I hunted up that old scrap in the *Missouri Issue*, and now take pleasure in submitting to you (p. 698) two pictures. What do you think of them? And what do you think of the men who would deliberately teach these boys to drink and swear, and to smoke cigarettes? There is no exaggeration about this, friends. These pictures are of just such boys as you have in your own neighborhood and in your own home. One part of the group is made up, evidently, of the children of well-to-do families. The other group shows some boys who, perhaps, are not so fortunate, or are so considered by the world; but if you had lived as long as I have, and kept your eyes open, you would have found out that the nicely dressed boys are no safer from Satan's wiles than the other ones—sometimes I think they are not as safe; for the boys who have to work for every nickel they have to spend are less likely, as a rule, to use it foolishly. The boys who have plenty of money, and not much to do, are the ones who get into bad habits. Just recall what has happened to some of the boys whose fathers are millionaires. Carnegie says it is a disgrace to *die* rich; and I begin to think it is a misfortune to be *born* rich. The great men of the present day came, as a rule, from the class on the right-hand picture that lies before you.

The brewers and saloon-keepers are already getting desperate because their trade is suffering. They must have constant recruits or their business can not hold up and prosper. Dear me! What an *awful* piece of sarcasm to talk about "prosperity" in connection with any business designed to educate and train those innocent, unsuspecting little chaps in the course that leads down to hell! Boys are full of mischief. Your boys and my boys were and are. If they were not full of mischief, and constantly looking about for fun, and inquiring into the whys and wherefores of things, they would not be "much good." Their little minds are ready to be molded and fashioned. They are ready to take up with any thing that comes along; and when they get started they are, as a rule, full of enthusiasm and push. You may get them interested in bees or chickens, or in a printing-press or a garden, and a thousand other things; but if you do not keep a careful eye on them, and look out, somebody else will get them interested in smoking cigarettes, drinking beer, gambling, and things of that sort. May God be praised that I shall always have the mothers on my side, even if I do not get hold of the fathers. May God hasten the day when our mothers shall have a little more to say in regard to the environments of the home. There may be some fathers, but I trust not many mothers, who will say they can take care of their own children, and other fathers and mothers can take care of theirs. In other words, *whose* boys shall keep the ginmills running, your boy or mine?

While GLEANINGS has had many encouraging words in regard to the stand it has taken in the

temperance crusade, once in a while it gets something from the other side. I suppose you are well aware that we send a printed statement to all of our subscribers when their time runs out, asking them to remit if they wish their journal continued. I am now going to give you a brief letter from one of our subscribers who is not exactly pleased, evidently, with the course GLEANINGS has taken. I will give only the initials of the writer and the name of his State, for I do not wish to be personal:

The d—d local-option law has knocked us out of business, and so we have to cut down expenses.

J. H. H.
Illinois, April 24.

Although this friend asked to have his journal stopped, I am going to mail him one more number, and I want him to look at these pictures. And permit me to say to him, and others who may have their revenue cut off by the recent crusade, something as follows:

"Dear brothers, when you take a look at the picture of those boys, and realize that it is in your power to influence them either in the downward path that leads to ruin or in the straight and narrow path that leads to heaven, can you for a moment think of doing any thing, no matter how much money you may get out of it, that would lead them astray? Are not the words of our opening text the words spoken by God's holy Son — words that bear the stamp of having come from heaven rather than earth? You may get money, it is true; but more than one millionaire has found his money to be a veritable mill-stone hung about his neck."

Just a few days before I left Florida a wealthy man in our own neighborhood, who got his money in the liquor business, made one of his employees a Christmas present of a jug of whisky. Just think of it! a jug of whisky for a *Christmas present!* Well, this employee, although he had not been much in the habit of attending our Sunday-school at Osprey, on that special Christmas eve he took his wife to the Christmas-tree in that little chapel I have told you about. The poor woman had suffered from sickness and other trials, and was just getting able once more to care for her little family of two. After the Christmas celebration was over, when this man and his family were sound asleep, perhaps a little after midnight, two other drinking men roused them up and demanded the jug of whisky or what remained of it. In the altercation which ensued, the man who received the whisky was shot, and his poor innocent wife was so prostrated by the tragedy on that Christmas morning that she went insane and is now in the asylum, and in a few days later the man of wealth, who presented that jug of whisky to the murdered man, himself committed suicide. That is the sort of Christmas present that that jug of whisky proved to be.

Dear friends, if your former occupation is gone, and you are obliged to turn to something else for a livelihood, can you not thank God for having blocked the way so that you can now engage in something that will be useful to humanity?

Now I want you all to take a look at that picture of the boys once more. Think of teaching these little fellows to smoke cigarettes when the whole wide world agrees in regard to the terrible

damage the habit does to the boys physically as well as mentally. The teachers in our schools are a unit, and I may almost say the same thing of our fathers and mothers, and yet this traffic goes on. Seven States have already prohibited their manufacture and sale. These States are Tennessee, Oklahoma, Indiana, Wisconsin, Nebraska, Washington, and Arkansas. Ohio has once more been defeated in her effort to banish cigarettes. Just one little woman, Miss Lucy Page Gaston, is leading the fight. If you want to write to her, address her at 1119 Woman's Temple, Chicago, Ill.

In a recent letter she sends me the following newspaper clipping:

Probate Judge Samuel L. Black gave the anti-cigarette crusade movement a great impetus Sunday afternoon in a forceful and pointed address delivered at the mass meeting held in the Central Presbyterian church, Columbus. After denouncing the cigarette as the means of ruining more boys than the open saloon, he declared that, if the pending juvenile-court bill passes the legislature, he would at once commence handing out heavy fines and workhouse sentences to the hundreds of Columbus druggists, and poolroom and tobacco-store proprietors, who persist in supplying the young boys with the nefarious "coffin-nails."

"The evil of the cigarette curse lies mainly in the ease with which any youngster in Columbus can secure all the cigarettes he can smoke," said Judge Black. "Very few saloonists will sell liquor to a lad under sixteen. They are afraid to. But youngsters of even the most tender years can purchase their tobacco supply almost anywhere. The resulting havoc is evidenced in our juvenile-court records. It is not fair to punish the boy for smoking. The adult who furnishes the obnoxious weed, and derives a lucrative revenue, is the real culprit. He is the man who is filling our prisons and public institutions. If a good prohibitory measure were passed in Ohio it would not be necessary for a Columbus police judge to parole fifty or a hundred prisoners in order that room may be made for the constantly increasing throng."

Judge Black forcibly illustrated his talk with incidents that came under his notice in the juvenile court and the graver cases brought to his notice as probate judge.

Just think of that, friends. These cigarette manufacturers and venders say in substance, "We do not care a — what becomes of your boys. We are going to have their nickels, if we can get them, as long as the boys have any." If the above are not the exact words they use, it certainly is the spirit of what their actions manifest, and all for a little money. By the way, is it not true that there are a good many of us, and some mothers, perhaps, as well as fathers, who are straining every nerve for nickels and dollars? and yet when we come to die, of what use then is this money or property? And sometimes, even before we come to die, we begin to realize that *money* does not purchase peace of mind or happiness. I have exhorted you many times lately about laying up treasures in heaven instead of here on earth. Now, is there any other way in this world by which we can more surely lay up treasures in *heaven* than by keeping a careful and loving eye over these young boys and girls just growing up, no matter whether they are your children or those of your neighbor? They are God's children, and the responsibility rests on us to look after them and protect them by law as well as lies in our power. See that they are brought into the Sunday-school; that they are taught these precious and wonderful texts out of God's word; that they are properly protected from these demons in human form who would blast their young lives just to obtain a few nickels. In closing I wish to give you one more text:

And whosoever shall give to drink unto one of these little ones a cup of cold water only, in the name of a disciple, verily I say unto you he shall in no wise lose his reward.—MATT. 10:42

"REJOICE AND BE GLAD."

One of the friends adds, by way of postscript to a kind letter, something that reads as follows. It occurred to me that it would follow nicely the thought expressed in my temperance talk for this issue.

And now let me tell you why I am so exceedingly happy tonight that I can hardly write straight. Our city of about 80,000 inhabitants, after eleven years of rum rule and unbridled license, debauchery, drunkenness, and high-handed deviltry that would rival Sodom and Gomorrah in brazen defiance of morality and decency, has gone *no license* by 1678 majority—a flop of 3000 from last year. I feel like throwing up my hat with a baseball yell that would startle the ashes of old Father Mathew. I am sure (and this will interest you) that every Methodist bell in town was rung last night for all it would stand without cracking. Rejoice with us. Next May will see all the snake-factories closed down tight, thanks to Providence, through the Lynn Non-license League. We think there are brains and money and push enough behind this movement to make it permanent, and especially hot for law-breakers in the business of wet goods. The city of Worcester ditto. The business of the country is waking up to the fact that drunkenness is an unreliable factor in the marts of trade.

H. Q. STAPLES.

Lynn, Mass., Dec. 14.

HEALTH NOTES

"DULL AND SLUGGISH."

From T. B. Terry's Health Talk in the *Practical Farmer* for April 25 I clip the following:

Alfred Vieweger, Estellville, N. J., writes: "I am 26 years old, 5 ft. 7 in. tall, and weigh 145. Every week day I have hard work to do for six hours. Dr. Wiley is quoted as saying that a man needs daily on an average an amount of solid food equal to one per cent of his weight. I am perplexed over this. My experience seems to contradict it. According to the doctor I should need about 23 ounces of solid food a day. But I have lived for a week on 9 ounces a day of wheat and butter, and never felt so strong and active before; and then when I tried to come somewhere near what the doctor advised I found myself dull and sluggish—just able to plod along." This report from a young man who is seeking the truth is very pleasing. There are few people who have yet learned just why they feel dull and have a lack of energy at times. By all means, my young friend, follow your own plain experience, but with care to eat proper food, and never mind what Dr. Wiley may or may not have said. If he said it he was wrong for you and for me. For perfect results, eat just as little as you can and hold your normal weight and always feel well, strong, and active. If you eat more, a part of your energy must be used up in taking care of extra food which you did not need, and which partially clogs the fire of life.

Now, friends, the above statement from Mr. Vieweger takes a mighty hold on me, because for the past few years that "dull and sluggish" feeling that he speaks of has been the greatest trial of my life. If I sit down to read a book or paper, and undertake to read a little too long, it comes over me almost overpoweringly; and I have not found any thing but brisk hard work in the open air that will ward it off. Sometimes I think it is the natural outcome of old age; but I hardly think this can be true, because other people keep up their strength and vigor not only up to 70 but sometimes even to 80 years of age. And another thing: I sometimes have spells lasting for several days when I feel almost as well as when I was young. Is it possible that tempting articles of food that I do not need at all are responsible for this feeling of being "just able to plod along," as friend V. expresses it? I have tried taking a light breakfast of some of the breakfast foods, especially the uncooked ones, and I have thought several times I had found out where the trouble was; but after my light breakfast I often get so ravenously hungry by dinner-time, especially when Mrs. Root prepares a tempt-

ing dinner, that it seems almost impossible (I am ashamed to make this confession) to make a stop at the proper time, or to forego entirely the tempting dessert. Yes, dear friends, this is true of your old friend A. I. Root. It seems as if Mrs. Root could not get hold of the idea that I do not really need a good nourishing "square meal." Sometimes she says, "Oh, dear me! what shall I get for dinner?" Well, when nobody is to be present, probably, but us two, I say, "Dear Sue, do not get any thing at all. Just give me my bowl of rolled wheat and some butter, and I shall be all right. In fact, I have often hoped you would not waste your precious strength in preparing tempting foods for me." I tell her to cook whatever she cares for so far as she herself is concerned, but to let me follow Terry. I think it must be a sort of lack of faith among the women-folks in thinking that we men-folks must have so many elaborate meals with lots of side-dishes to wash and put away, etc. I fear, too, that many of these good wives of ours are afraid of being "out of the fashion." You know women-folks have to dress in a way that thousands of them do not like, because they say they must follow custom or fashion—at least to a certain extent. Well, the younger ones can follow the style if they choose; but I am sure it is not necessary for people as old as Mrs. Root and I to follow all the changes of fashion.

Just one thing more about the "dull and sluggish" feeling. As warm weather comes on I find it a great help to change my heavy woollens for light and loose clothing. Frequent bathing is also a great benefit; and last, but by no means least, fresh cool air every hour of the day. May God help us, especially those of us who feel that we are growing old, to learn these important lessons in regard to health, especially along the line of diet. I feel sure that T. B. Terry is on the right track, or pretty nearly so, any way, because I meet people everywhere I go who are rejoicing in better health on a diet of uncooked food. My impression is there are thousands, if we could get their testimony, who are living on "wheat and butter," and not more than "9 ounces" a day at that. While in Florida a very bright and intelligent woman who was visiting in our locality walked to our cottage (two miles) on purpose to tender me her thanks for what T. B. Terry and I had done for her in giving her new life, courage, strength, and happiness. She had been living for a year or more on rolled wheat and pure olive oil. Friend Terry uses the olive oil, a good deal, in place of butter. In that way his diet is entirely vegetable. You may gather from the papers that some of the great athletes of the present day are gaining their strength, and keeping it, on a similar plain simple diet.

In closing, let me remind you once more of the thousands of good women who would be relieved from something that is almost a sort of *slavery* if people generally would adopt the diet recommended in the clipping I have given you. Of course, it takes some *courage* and *self-control* to forego all of these good things we are accustomed to, and which are constantly placed before us. It is true that many people seem to need a certain amount of sweets in their "balanced ration." Well, we bee-keepers have it right at hand, for honey is always *uncooked* food.

COLDS, GRIP, ETC.

A few days ago Mrs. Root asked if it could be really true that T. B. Terry and his wife never have colds nor the grip, as almost everybody does have all over the North, and to some extent away down in Florida. I told her I would write and see. Below is his reply:

Dear Mr. Root:—No, I do not have colds, grip, nor any other ill. There is no need of having them. I really can't remember when I had my last cold, or ill feeling of any kind. I hardly dare think how perfectly well in every way I am, to say nothing of telling the whole truth, it seems so marvelous. And still it is not. God means we should all be well through a long life. Ignorantly (often, of course) we sin and suffer; that is all. Common ways of living have gradually drifted far from the simple, wholesome, and natural. It was ignorance, from lack of thought, with me once; but the truth has gradually come as I sought earnestly for it. Right here let me say positively that there is no cross about proper living, as people are sure to think, at least for only a short time. I certainly never enjoyed my meals, sleeping, breathing, working, any better than I do now. My wife never has a cold at home. I have been away a week at a time, now and then, and got along all right. Nature allows a reasonable margin. Please notice article this week on strength directly from God. It simply must be so. And next week I am sure you will be deeply interested when you read how *GLEANINGS* saved a life, beyond question—has saved many, probably, but one special instance is given, and the truth in this case is even stronger than I put it.

T. B. TERRY.

Hudson, O., May 8.

Even though this health talk is getting to be a little long I think the readers of *GLEANINGS* can afford to read the following, which we clip from Terry's talk in the *Practical Farmer* for May 16:

BROUGHT BACK FROM DEATH'S DOOR.

A middle-aged reader was troubled with indigestion and constipation by spells for some 20 years. At last he got seriously sick with typhoid fever. The doctor said there was no hope for him, but still he barely pulled through, and was able to sit up for a little after a few weeks. But his troubles were not over. Nothing could be found for him to eat that would not distress his stomach. He seemed unable to digest any thing. Food just lay in his stomach and decayed until it looked as though he must starve to death. Years ago my mother slowly starved to death in just this way. It was terrible, but we did not know how to save her. She had medicine and advice from the best doctors in Detroit. Now read our friend's words, exactly as written: "One day I happened to look into Mr. Root's bee-journal, *GLEANINGS*, and saw an article telling what you ate, copied from *The Practical Farmer*, I read it over at least a dozen times, I was so deeply interested. A little courage came back, and I thought that possibly there was a chance for me to live yet. I began eating a small amount of dry flaked wheat, uncooked, with olive oil and fruit, about 8 A.M.; then nut meats and fruit at 3 P.M., all most thoroughly chewed, and with much water drank between meals. I never before saw any thing like the change that took place. In one week I was much better in every way. In two months I was strong, and doing my work again. I can not express in words my gratitude to *The Practical Farmer*, Mr. Root, and yourself." This is from a private letter, but it is far too valuable to throw away. I am sure this good friend will pardon me for making the main facts public, so long as names have not been mentioned.

HIGH-PRESSURE
GARDENING

A. I. ROOT

THAT BIG CELERY STORY—SEE PAGE 511.

Well, friends, I have got some high-pressure gardening this time, "sure thing," as my colored boy Charley puts it. Just turn back to pages 566 and 567, May 1, and look at the pictures of that celery-farm of five acres, and now read the brief letter I succeeded in getting from friend Latimer, below:

Dear Friend Root:—I am very sorry I was not at the farm the day you were out to see it. I had gone to the depot to ship a car of celery at the time you were there, and did not find out that you

intended writing up the farm until you had done so, although you seem to have gotten every thing down as it was, with two or three exceptions. One is my name being T. L. Latimer instead C. L. Latimer; and another, you say "I have reason to think he employs at least one or more expert men who know all about the business." The fact is, I did not have a man who ever tried to raise a celery crop in his life, on the farm at any time during crop season, including myself. I never tried to raise any vegetables until I came to Manatee Co., Fla., a little over a year ago.

Now in regard to marketing the crop, returns, and so on, that you ask me for. I will state that returns are not all in yet, having just shipped the last car this week, but may say the first acre netted over \$1800; the others did not do that well, on account of the very dry spell of weather you spoke of in your journal when you were here, it being broken only this week by a 4-inch downpour of rain, the day I finished getting out the last car. While I kept it watered with artesian water the country around was very dry, and it affects it to some extent. And then prices were not so good toward the last. On the whole I did a good business—far better than I expected. On the first seven rows, that were 300 feet long, I cut 167 crates that netted \$429.67, or over \$61.00 per row. The rest of the celery was just as good, but I did not get as good prices for it.

We hope to have you back with us when Jack Frost comes again in the North, and we hope to get better acquainted with you.

There is a great temperance rally to-morrow just across the river at Palmetto, where a great revival has been going on for two weeks; and the evangelist, Mr. Bridges, starts one here next week that is destined to do great good in this town.

Bradenton, Fla., April 12.

T. L. LATIMER.

The above is simply astounding. If I did not know the man and had not seen his celery and talked with his eighteen-year-old boy, I might find it hard to believe, myself. We who are "old and wise" have been saying right along that one can not hope to succeed in any business without practical experience. You must commence slowly and build up gradually. Well, that is good advice for most of the world; but this time one man and his eight children (do not forget about the *eight children*, I beg of you) went into a new region—in fact, into a tropical climate where they were entirely unacquainted with any thing or anybody, and actually worked up in a little over one year what I have been telling you. There is another secret to it besides the family of eight children, and I have purposely let you into it by leaving on the concluding paragraph of his kind letter. He is a man who does not drink, and never did drink, and his family follow him; and I gather, too, that he is never so busy in pushing his business but that he can keep track of it and be on hand when a great revival is under way. May the Lord be praised for such men. And this is not all of it, either. May the Lord be praised for the good woman who has taken charge of that family of eight children, and who stands back of brother Latimer for righteousness, temperance, and purity.

Later.—After dictating what I did in the above, my conscience began to trouble me somewhat. I was afraid that there would be many who would feel sure they could do something like what friend Latimer has done, and then would be sorely disappointed. Let me tell you, by way of caution, that all over Florida there are deserted homes, gardens, and fields where somebody has wasted a lot of money, and yet made only a failure. New comers in Manatee Co. many times say, "Why, where are your nice-looking gardens and wonderful crops?" And I confess I have made a lot of apologies and excuses; but when I take them over to my neighbor Rood's and let them see with their own eyes the possibilities of that region they have to admit all that has been told them. Then comes the question, "Why should so many fail when only a

few men here and there succeed?" I do not know, unless it is because so many go down there with a sort of idea that they can get a living in Manatee Co. without work. It is not true of that region nor of any other that I have ever visited.

CELERY VERSUS WHEAT.

The following, clipped from a letter written to a brother of the writer, "Stenog," brings out one point very plainly:

I like to look at the pictures in *GLEANINGS*. The one of the five acres of celery, for which \$5000 was refused, makes the wheat-farms of Ohio seem sick. If five acres of wheat brought \$100 it was considered a good crop. Moral—raise more celery and less of something else.

F. J. ROOT.
545 North Grove St., East Orange, N. J., May 12, 1908.

SWEET CLOVER AS A FORAGE-PLANT, FROM THE STANDPOINT OF THE FARMER AND STOCK-GROWER.

The two letters which are herewith appended appeared in the *Breeder's Gazette* for May 13. They are self-explanatory. Both tend to show that sweet clover, rightly considered, is one of the most valuable forage-plants we have. It may be added that the *Breeder's Gazette* is the leading paper of its kind in this country. Its large circulation will help to make sweet clover popular, or at least give it fair hearings.

W. K. M.

SWEET CLOVER A BOON TO ALABAMA.

TO THE GAZETTE.—In your issue of April 29 J. D. Grimes condemns sweet clover (*Melilotus alba*) as a worthless weed, saying stock have to be starved to make them eat it, and that it is very difficult to destroy.

Here in the lime belt of Alabama we consider it one of the most valuable plants we have. Stock, when first placed in a pasture containing it, will not eat it; but they do not come anywhere near starving before they begin to eat. In many pastures there is nothing but melilotus, and these are nearly always the pastures that contain the fattest cattle in the neighborhood. Several of our best farmers depend upon it very largely for hay, cutting it when about 12 to 18 inches high. They say it is nearly as good as alfalfa hay if cut young enough, and their stock is just as fat as the stock that gets alfalfa for roughage. We find it no trouble to kill. One year in corn nearly always about clears the land of it.

As a soil-renovator we think it has no equal on thin lime land. I have seen land that would not make five bushels of corn per acre planted in melilotus for five years and then produce about twenty-five bushels per acre (nearly double the average Alabama yield). This land was pastured a part of the time, and the melilotus was cut for hay the other part.

Some of our most prosperous farmers say if they could have only one of sweet clover and alfalfa they would take the sweet clover. It will grow vigorously, and afford two or three fine cuttings of hay on land so poor that on it alfalfa will not get a start.

SHOTES LIKE SWEET CLOVER.

TO THE GAZETTE.—I have been reading the discussion in your journal about sweet clover, with considerable interest. I have had some experience with it. I sowed 20 acres some years ago to alfalfa. The seed contained a liberal percentage of sweet clover. It was a noxious weed and would take the farm, so I decided to plow it up; but before doing so I pastured it one year with cattle. These cattle had the run of an adjoining 20 acres of wild grass. They kept down both alfalfa and sweet clover to the neglect of the wild grass. I plowed it up, and the clover disappeared without any trouble whatever. I do not think it as hard to kill as alfalfa by my means. The only place where it has remained is along the division fence where I have not molested it.

Adjoining this fence I have 30 acres of rye and 10 acres of blue grass on which I have been running 175 sheep. I have noticed that these shotes, which have an abundance of tender rye and blue grass, have kept this clover nipped close to the ground, while on the other side of the fence it is knee high. I should like to sow a field to it. Could you tell me where I could get the seed?

J. G. KUNZ.
Hall Co., Neb.

REMARKS.—Write any seedsman whose advertisement has appeared in our columns the past few weeks.—ED. GAZETTE.

PAULOWNIA IMPERIALIS.

Our readers will remember our paulownia-tree that grew 16½ feet high the first season, but which, during the winter of 1906, killed down to the ground. Last summer I had given it up for dead; but I had one of my happy surprises along toward the first of June when a great strong shoot shot up close to the base of the old tree. A little later, several shoots started likewise. Of course, I took away all but one. The shoots looked so rank and thrifty that it occurred to me they might be put in damp sand and started as we start cuttings. The plan proved to be a success. Almost every one took root; and last fall, when I started for Florida, I had 25 little trees, one foot and under, planted in bed of rich ground north of my automobile-house. Before leaving I gave particular directions to one of the men to be sure to mulch the little trees with coarse stable manure before hard freezing; but during my absence it was not attended to, and so I was afraid all of my little trees were winter-killed. At this writing, however, May 1, I am greatly pleased to find almost every one of them alive and sending up great strong shoots.

Now, here is something in regard to this same tree in Mississippi:

I wish grandpa Root could see a paulownia imperialis that is in my back yard. It is 18 inches in diameter, and has been in full bloom since April 1. There is no greater honey-tree than this. The bees work on it from daylight until night drives them in. They even work on it when it is raining, as the flowers hang downward and the nectar does not wash out.

R. V. GOSS.

Verona, Miss., April 15.

Many thanks for your report, friend G. I am glad to know you succeed so well with them. I have been wanting to try them in our Florida home, but have not yet got at it. It makes such a tremendous growth in a season here (16½ feet tall with leaves over a yard wide) that it is worth while to plant them, even if they should winter-kill down to the ground nearly every season. In that event, however, of course we could not get any bloom for honey.

I got my first trees of George W. Park, of Lark Park, Pa. He has not only the trees for sale, but the seed for planting; but he tells us the seed is a week in germinating, and I am under the impression that it requires special treatment. I think propagation by cuttings will be the quickest and surest way.

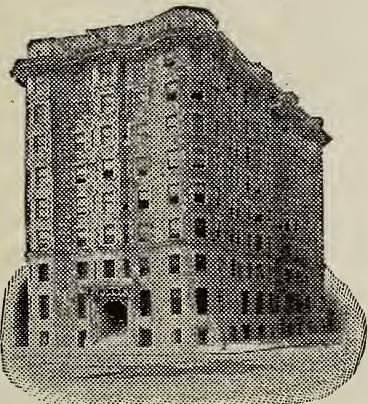
JELLY-MAKER VS. GLUCOSE TRUST.

The Corn Products Co., manufacturers of glucose, is in a controversy, it seems, with makers of low-grade pail jellies, among them the American Preserve Co., of Philadelphia, a chief antagonist to the glucose concern.

The controversy has arisen because the Corn Products Co. has embarked in the business of manufacturing compound jellies which, it is reported, it is selling at prices lower than those made by the regular manufacturers of jellies. The American Preserve Co. resents what it contends is an encroachment upon its business. It charges the Corn Products Co. with entering the jelly-field in order to compel regular jelly-manufacturers to buy their glucose from it.

The Corn Products Co. asserts that it has a perfect right to go into any business that it likes.—*Grocers' Criterion*.

WHEN IN DETROIT
STOP AT
HOTEL TULLER
New and Absolutely Fireproof
Corner Adams Ave. and Park St.



In Center of the Theater, Shopping, and Business District
A LA CARTE CAFE
Newest and Finest Grill Room in the City
Club breakfast, 40c up. Lunch, 50c. Table de hote dinners, 75c
Music from 6 P. M. to 12 P. M.
Every Room has Private Bath
EUROPEAN PLAN. RATES \$1.50 PER DAY AND UP
L. W. TULLER, Prop. M. A. SHAW, Mgr.

Do You Want A	COPY OF VEGETABLE GROWING	?
FRUIT and VEGETABLE GROWING in MANATEE COUNTY. FLORIDA.		
SEABOARD AIR LINE RAILWAY		SEABOARD AIR LINE RAILWAY

WE WILL SEND TO YOU FREE.

This handsomely illustrated, fifty-page booklet containing a most interesting description of the famous Manatee section, being a reproduction of a series of articles written by the editor of one of the leading agricultural papers in the United States after a personal investigation by him. The articles were run in serial form in his publication during the last four months, and we have embodied same in an attractive pamphlet, illustrating it with dozens of interesting and instructive scenes from actual life. This handsome piece of literature will be thoroughly enjoyed and worthy of preservation, and will be sent free, together with pamphlet containing a list of properties available in the LAND OF MANATEE upon receipt of five cents in stamps or currency to cover cost of mailing. Our supply of this booklet is limited, and if you want a copy you should not delay, but write at once.

J. W. WHITE.

General Industrial Agent
Seaboard Air Line Railway.
Dept. F PORTSMOUTH, VA.

THE "BEST" LIGHT



A portable, pure white, steady, safe light. Brighter than electricity or acetylene. 100 candle power. No grease; dirt never gets in. Lighted instantly. Costs 2 cts. per week. Over 200 styles. Every lamp warranted. Agents wanted. Write for catalog. Do not delay.

THE BEST LIGHT CO.
306 E. 5th St., Canton, Ohio

MAKES AND BURNS ITS OWN GAS

THE "KANT-KLOG" SPRAYERS

Something New. Gets twice the results with same labor and fluid. Flat or round, fine or coarse sprays from same nozzle. Ten styles. For trees, vines, vegetables, whitewashing, etc.



Agents
Wanted.
Booklets free.

Rochester Spray Pump Co., 32 East Ave., Rochester, N. Y.

SPRAY PUMPS

TAKE OFF YOUR HAT TO THE MYERS

MYERS
The Pump that pumps easy and throws a full flow. The newest pump is the best pump, that's a Myers Pump. Hay Tools & Barn Door Hangers. Send for catalog and prices.
F. E. Myers & Bro.
Ashland, Ohio.



12 DUMPER POST-CARDS FREE.

Newest Cards--All the Rage--Young and Old Delighted--You can Get the 12 Free.

(Offer Limited.)

We want to introduce our paper, *UP-TO-DATE*, into thousands of new homes. It is published for every member of the family--we know you will be delighted with it and profit more by reading it than any other paper you ever read. It is printed on good paper, from large type. Contains 20 to 40 large four-column pages each issue.

The Dumper Post-cards are something new. All who get them can make money with them; we will tell you how to make 50c from the twelve you get if you care to part with them. Also, we will tell you how to enter profitable employment in your own locality or elsewhere, and make \$3.00 to \$5.00 a day.

Our Offer This big offer is made for a limited time only, so send your order to-day. We will send *UP-TO-DATE* to your address six issues, and 12 Dumper Cards--all for 10c. Get in on this if you want to make a hit and earn the extra money. Only one set to a family;

UP-TO-DATE, 218 W. Washington St., Indianapolis, Ind.



WANTED—A RIDER AGENT IN EACH TOWN
Model "Ranger" bicycle furnished by us. Our agents everywhere are making money fast. Write for full particulars and special offer at once.

NO MONEY REQUIRED until you receive and approve of your bicycle. We ship to anyone, anywhere in the U. S. without a cent deposit in advance, *prebay freight*, and allow **TEN DAYS' FREE TRIAL** during which time you may ride the bicycle and put it to any test you wish. If you are then not perfectly satisfied or do not wish to keep the bicycle you may ship it back to us at our expense and *you will not be out one cent*.

FACTORY PRICES We furnish the highest grade bicycles it is possible to make at one profit by buying direct of us and have the manufacturer's guarantee behind your bicycle. **DO NOT BUY** a bicycle or a pair of tires from *anyone at any price* until you receive our catalogues and learn our unheard of *factory prices* and *remarkable special offers* to **RIDER AGENTS**. We also supply models at the *wonderful low prices* we can make for 1908. We sell the highest grade bicycles for less money than any other factory. We are satisfied with \$1.00 profit above factory cost. **BICYCLE DEALERS**, you can sell our bicycles under your own name plate at double our prices. Orders filled the day received.

SECOND HAND BICYCLES. We do not regularly handle second hand bicycles, but usually have a number on hand taken in trade by our Chicago retail stores. These we clear out end at prices ranging from \$3 to \$8 or \$10. Descriptive bargain lists mailed free.

TIRES, COASTER-BRAKES, single wheels, imported roller chains and pedals, parts, repairs and equipment of all kinds at *half the usual retail prices*. **DO NOT WAIT**, but write today and we will send you **free** by return mail our **large catalogue**, beautifully illustrated and containing a great fund of interesting matter and useful information; also a *wonderful proposition* on the first sample bicycle going to your town. It only costs a postal to get everything. **Write it now.**

MEAD CYCLE COMPANY

Dept. 5113 CHICAGO, ILL.



A NEW HIVE-TOOL

Hitherto we have said very little about our new hive-tool, but after submitting it to some of the foremost bee-keepers of America for their candid opinion—for or against—the universal verdict is that it is a good thing; though it looks like a very simple tool it is very surprising how useful it is to an apiarist. The bent end, for example, is just right for severing Hoffman frames. A slight twist of the wrist does the business without angering the bees, and one's hand is so placed the bees do not see it. For scraping wax and propolis nothing could be finer, and it is better than a chisel, screwdriver, or putty-knife for opening hives. Any bee-keeper will be glad of one in his pocket ready for all occasions. It is made of the finest hardened steel nickel plated.

Sample Testimonial:

Mr. Root:—I have been using your nickel-steel hive-tool this spring, and am very much pleased with it. It is the best thing I have tried yet. I, with my helper, have been using tack-pullers heretofore; but this is better because so much stronger. It leaves nothing to be desired except that there should be a hole in it a little nearer the crooked end. I tried to get one drilled but had to give it up—too hard; so I fastened a strap around it to fasten to my pants button.

Oberlin, Ohio.

CHALON FOWLS.

Price 50 cents postpaid

THE A. I. ROOT COMPANY,

Hive-tool, and Gleanings for a year, \$1.25.

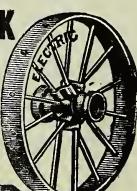
MEDINA, OHIO.

SAVE YOUR BACK

Save time, horses, work
and money by using an

Electric Handy Wagon

Low wheels, broad tires. No
living man can build a better.
Book on "Wheel Sense" free.
Electric Wheel Co. Bx 95, Quincy, Ill.



PATENTS.

Twenty-five Years' Practice.

CHARLES J. WILLIAMSON,

Second Nat'l Bank Bldg., Washington, D. C.

Patent practice in Patent Office and Courts.

Patent Counsel of The A. I. Root Co.

The Young Man or Woman

who is a High-School Graduate

contemplating the study of medicine will
receive a catalog if inquiry be made of

W. B. HINSDALE, M. D.,
Dean of Homeopathic Dept. of University of Michigan

ANN ARBOR, MICH.

T. B. TERRY'S HEALTH HINTS

published only in The Practical Farmer each week, have been the means of saving lives and thousands have been helped to enjoy life more than they have ever done before. Send **Twenty-five Cents** to The Practical Farmer, Philadelphia, Pa., and read Mr. Terry's Health Hints **thirteen weeks on trial**. You will be surprised to find how simple a matter it is to get well and strong and keep so. The latest and best that can be given you, together with strong editorials on Agriculture, Live Stock, Gardening, Home Life, etc. A high class weekly, well worth the subscription price of \$1.00 per year. Address

THE PRACTICAL FARMER
P. O. Box 1317 PHILADELPHIA, PA.

THE BEE-KEEPERS' Headquarters for the Southwest

Texas

Old Mexico

New Mexico

WE NOW HAVE ON HAND
AN IMMENSE STOCK OF HONEY-CANS
(13,000 cases)

Weed's New-process Foundation

We make it right here from a new set of machinery. At present our factory is running nights, as well as in daytime, to keep up with orders. Still we can take immediate care of your order when it comes, as you certainly want the best. Keep out of trouble and get the very best foundation money can buy. We have it here—made in San Antonio.

Plenty of Shipping-cases

12-in. 4-row shipping-cases with 3-in. glass	17.00 per 100
9 $\frac{1}{4}$ -in. 4-row shipping-cases with 3-in. glass	15.00 per 100
10-in. 2-row shipping-cases with 3-in. glass	9.35 per 100
6 $\frac{1}{4}$ -in. 3-row shipping-cases with 3-in. glass	9.80 per 100
7 $\frac{1}{8}$ -in. 3 row shipping-cases with 3-in. glass	10.70 per 100

A large warehouse of Root's Bee-supplies

Sold at Root's factory prices. Write us with regard to your wants. Catalog for the asking. If you have mislaid it, send for another.

Honey and Beeswax Wanted

We are always in the market for honey and beeswax in large or small lots. Beeswax, 27 cts. cash; in trade, 30 cts.

Whenever you are in San Antonio make our office your office, and let us show you through our plant. Stay here awhile and meet the bee-keepers as they come in. You are always welcome and will be courteously treated.

The Great Word Contest. More than a thousand persons entered our word contest; and as a result we have had to engage the services of an expert to determine the winners. We can not report in time for this issue, but hope to be able to announce them in the issue of June 15th—watch for it.

UDO & MAX TOEPPERWEIN
1322 SOUTH FLORES ST. SAN ANTONIO, TEXAS

ITALIAN

Queens

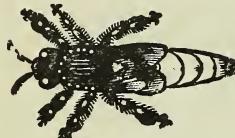
and bees, and nothing but Italians. An improved superior strain is what QUIRIN-THE-QUEEN-BREEDER raises. Our stock is northern-bred and hardy. We just visited our outyards (all wintered on summer stands), and not a colony is dead to date (March 18). Some hives have lost scarcely a bee, so it appears. BROTHER BEE-KEEPER, how do you like such stock for hardiness? A party up in Maine got 50 nuclei of us several years ago. We just received a letter from him. He is after more of our bees, because last season he got 2200 pounds of honey which sold for 22 cts. per pound. Our stock is well known throughout the United States. Some of the largest yields reported can be traced to our stock. Over 20 years a breeder. Free circular and testimonials. Price of stock as below.

Prices of Queens before July.	1	6	12
Select queens	\$1.00	\$5.00	\$9.00
Tested queens	1.50	8.00	15.00
Select tested queens	2.00	10.00	18.00
Breeders	4.00		
Golden five-band breeders	6.00		
Two-comb nuclei, no queen	2.50	14.00	25.00
Three-comb nuclei, no queen	3.50	20.00	35.00
Full colonies on eight frames	6.00	30.00	

ADD the price of whatever grade of queen is wanted, with nuclei or colonies; nuclei ready about May 1st to 10th; can furnish bees on Danzenbaker or L. frames; pure mating and safe arrival guaranteed. We employ 400 to 500 swarms in queen-rearing, and expect to keep 500 to 1000 queens on hand ready to mail. Our Northern-bred bees are hardy, yet gentle; they will give you results. Address all orders to

QUIRIN-THE-QUEEN-BREEDER, Bellevue, Ohio

ITALIAN QUEENS



Fine young prolific 3 and 5 banded Italian queen, untested, only 75c; extra-fine queen \$1; tested, \$1.25. Full colonies in 8-fr. hive, with queen, \$5.50; 3-fr. nucleus, with queen, \$2.75. Safe arrival guaranteed. Directions to introduce go with queen. Price list free.

J. L. FAJEN, . ALMA, MO.

GOLDEN-ALL-OVER and RED-CLOVER
ITALIAN QUEENS

My stock is the result of years of careful selection, and is equal to any in the country. The prices are only such as to insure long-lived, prolific queens, whose workers will be hardy and good honey-gatherers. Write for 1908 circular. PRICES.

	1	6	12
Untested		\$1.00	\$5.00
Select untested		1.25	6.50
Tested, \$1.75 each; select tested, \$2.00 each.			12.00

Positively all orders filled in rotation.

Wm. A. Shuff, 4426 Osage Ave., Philadelphia, Pa.

Queens from Southwest Florida

From very best stock, furnished by The A. I. Root Co.; reared on the island where A. I. Root was formerly located. Prompt shipments and correspondence solicited. I. T. SHUMARD, Osprey, Manatee Co., Fla.

Queens FOR 1908.

Finest Goldens bred in America. Send for my latest circular and prices — and be convinced."

DANIEL WURTH, PITKIN, ARK.

Golden Italian Queens, \$1; Six for \$4.50.

Safe arrival and satisfaction guaranteed. 18 years' experience. Circular.

J. B. CASE, Port Orange, Fla.

Taylor's Strain of Italians is the Best

Long tongues and goldens are the best of honey-gatherers; 19 years a specialty, breeding for the best honey-gatherers. Untested, 75 cts. each, or \$8.00 a dozen; tested, \$1.00 each, or \$10.00 a dozen; select tested, \$1.50 each. Breeders, the very best, from \$3.00 to \$5.00 each. We sell nuclei in full colonies. Bees in separate yards. Safe arrival guaranteed. Send all orders to

J. W. TAYLOR & SON, Beeville, Bee Co., Texas.

NOT CHEAP QUEENS, BUT QUEENS CHEAP

500 Best Strain Italian Queens Ready to Mail March 1st. Untested queens in lots as follows: 1, 75 cts.; 6, \$4.20; 12, \$7.80. Tested queens in lots as follows: 1, \$1.00; 6, \$6.00; 12, \$10.80. Breeders in lots as follows: 1, \$5.00; 6, \$31.00; 12, \$62.00. Nuclei with untd'd queen: 1-fr. \$1.75; 2-fr. \$2.50; full colonies, \$4.75. Nuclei with tested queen: 1-fr. \$2; 2-fr. \$2.50; full colonies, \$5.50. Also dealer in bee-keepers' supplies. Root's goods. Ask for cat'g. W. J. LITTLEFIELD, LITTLE ROCK, ARK.

PHARR'S GOLDENS

took first prize at three exhibits in 1907. We also breed Carniolans, three-banded Italians, and Caucasians, bred in separate yards and from the best breeders obtainable; guarantee safe delivery and fair treatment. Untested, 75 cts.; tested, \$1.00. New Century Queen-rearing Co., Bercair, Tex. John W. Pharr, Prop.

QUEENS

GOLDEN AND CLOVER STOCK.

Prices for May and June: Choice queens, \$1.00 each, 6 for \$5.00, or \$9.00 a doz.; after July 1st, 75 cents each, 6 for \$4.00, or \$7.50 a doz. Tested queens in May and June, \$1.50; after July 1st, \$1.25. Two-comb nucleus, no queen, \$2.00; three-comb nucleus, no queen, \$2.50. Full colony on eight frames, no queen, \$5.50. Five per cent discount on five, ten per cent on ten or more. CATALOG FOR 1908 FREE. SEND FOR ONE. GEO. W. BARNES, box 340, NORWALK, OHIO

ITALIAN QUEENS

Having purchased the aparies and queen-rearing business of Mr. A. E. Titoff, at Ioamosa, Cal., I hereby politely tip my hat to the bee-keeping world and wish to say that I shall use every endeavor in my power to serve you faithfully and honestly.

Send for circular and price list.

Yours for the best queens and bees,

E. M. GRAVES,
Ioamosa, San Bernardino Co., Cal.

Westwood Red-clover Queens

Are the bees that got the honey in 1907. Better try them for 1908. Nuclei and full colonies a specialty. Price list on application. HENRY SHAFFER, 2860 Harrison Ave., Sta. L, Cincinnati, O.

W. H. Laws is again on hand for the coming season with a larger stock of queens than ever before. He sold 400 queens to a New Mexico producer last May who wrote, "Your stock is far ahead of those Eastern queens I have been buying," and has placed his order for 1000 more of the Law queens to be delivered in May and June coming.

Others write that, if they had purchased all Laws' queens, their crop of honey would have been doubled. Testimonials enough to fill this book. If you are going to improve your stock, had you not better investigate?

Single queen, \$1.00; dozen, \$10.00; breeders, the best, each, \$5.00. W. H. LAWS, Beeville, Bee Co., Texas.

ITALIAN QUEENS BY RETURN MAIL OR MONEY REFUNDED.

Warranted, \$1.00 each, six for \$5.00; tested, \$1.50 each. Circular free.

D. J. BLOCHER, PEARL CITY, ILL.

MILLER'S SUPERIOR ITALIAN QUEENS

By RETURN MAIL; bred from best Red-clover working strains in U. S. No better hustlers; gentle, and winter excellent; untested, from my SUPERIOR breeder, 1, \$1.00; 6, \$5.00; 12, \$9.00. After July 1st, 1, 75c; 6, 4.00; 12, \$7.50. Special prices on lots of 50 or more. Satisfaction and safe arrival guaranteed. Circular free. ISAAC F. MILLER, :: Reynoldsville, Pa.

Queens Queens

of the

FINEST POSSIBLE BREEDING

BRED BY

F. J. WARDELL,
UHRICHSVILLE, OHIO, U. S. A.

After many years' experience as head queen-breeders for The A. I. Root Co., I am now breeding bees at the above address. My stock is equal to any now advertised, and my long experience enables me to judge very accurately the value of any strain. Mine is the celebrated red-clover stock, which has given so much satisfaction to thousands of buyers for a number of years past. If you desire something very select for breeding purposes, write to me, stating your wants, and the same will be supplied. I have no cheap or inferior queens to sell. My prices for the season are as follows:

	May to June.
Untested queen	\$1.25
Select untested queen	1.50
Tested queen	2.50
Select tested queen	3.50
Breeding queens	6.00
Select breeding queens	9.00
Extra select	1 year old, 12.00

No untested queens sent before May 15; but to secure your queens early in the season it is necessary to order now. Absolutely, all orders filled in rotation.

5000 QUEENS

of the famous 3-banded LONG-TONGUE RED-CLOVER STRAIN OF ITALIAN BEES is what I want to sell this season.

My bees GATHER HONEY if there is any to get; ARE LITTLE inclined to swarm and sting, they please such people as The A. I. Root Co., R. F. Holtermann, W. Z. Hutchinson, Morley Pettit, etc., and if they don't please you, send in your kick.

Queens of all grades now ready.

	1	6	12
Untested queens	\$1.00	\$5.00	\$9.00
Select untested queens	1.25	6.00	11.00
Tested queens	1.50	8.00	15.00
Select tested queens	2.00	11.00	20.00
Breeders	\$5.00 to \$7.00		

W. O. VICTOR (Queen Specialist), Hondo, Tex.

When You Need
Queens and want
Your Order Filled
By Return Mail.



Three-band Italians bred for business. Tested, \$1.00; untested, 75c; \$8.00 per doz. Send for price list.

J. W. K. SHAW & CO.,
Loreauville, Iberia Pa., La.



HIGHLAND FARM QUEENS



are the result of years of careful selection and judicious breeding from the best honey-gathering strains of superior long-tongue red-clover Italians in America and Italy. Highland Farm methods will produce perfectly developed, long-lived, and prolific queens. If you want bees that will winter well, build up rapidly in the spring, and roll in the honey Highland Farm queens will produce them. We are now booking orders which will be filled in regular rotation, beginning

May 15. You should get in line by placing your orders early, and avoid the rush of the busy season. Single queens, \$1.00; 6, \$5.00; 12, \$9.00. Safe delivery and satisfaction guaranteed.

For further information send your address on a postal card to

HIGHLAND BEE AND POULTRY FARM, J. E. HAND, Proprietor, BIRMINGHAM, ERIE CO., O.

CAUCASIAN

QUEENS

ITALIAN

1905-1906 Queen-breeders in Apiary of Dept. of Agriculture, Washington, D. C.

Caucasians from imported queen of gray type. Three-band or leather-colored variety of Italians. All good honey-gatherers.

GRAY CAUCASIANS.

Untested queens.....1, \$1.00; 6, \$5.50; 12, \$10.00.
Select untested queens... 1.25 6.75 12.75.

PRICE LIST BEFORE JULY 1.

THREE-BAND ITALIANS.

Untested queens.....1, \$.75; 6, \$4.25; 12, \$ 8.00.
Select untested queens... 1.00 5.50 10.00.

SAFE ARRIVAL AND ENTIRE SATISFACTION GUARANTEED.

No bee disease ever in this section.

Descriptive circular and testimonials free.

LESLIE MARTIN, ::: Birdcroft Apiaries, ::: LEBANON, TENNESSEE.

CARNIOLANS, BANATS, ITALIANS.

Carniolans.—Our strain of Carniolans has been *line-bred* for 23 years, and they are very gentle, hardy, prolific, great honey-gatherers, and builders of white combs. One untested queen, \$1.00; 6 for \$5.00; 12 for \$9.00.

Banats.—This new race of bees is gentle and hardy; the bees are good honey-gatherers, and builders of white combs, and are not inclined to swarm like other races of bees. One untested queen, \$1.50; 6 for \$7.50; 12 for \$12.00.

Italians are from best imported stock; prices the same as Carniolans. NO DISEASE, AND SATISFACTION GUARANTEED.

F. A. LOCKHART & COMPANY, ::: LAKE GEORGE, N. Y.

CHOICE QUEENS

ITALIANS AND CARNIOLANS.

1 untested, 75c; 12, \$7.50. 1 tested, \$1.00; 12, \$11.00.

1 selected tested, \$2.00. 1 breeder, \$3.00.

Nuclei, full colonies, and bees by the pound at low prices.

CHAS. KOEPPEN, Fredericksburg, Va.

If You are Located in
West Virginia or Ohio

or anywhere else, order ROOT'S GOODS from
PEIRCE and save time and freight.

**EDMUND W. PEIRCE,
136 W. Main St., Zanesville, O.**


DON'T WORRY OVER MONEY MATTERS
but send for sample copy of Inland Poultry Journal
and let us tell you how to make money out of poultry.
Two full pages in colors, reproductions from
oil paintings that cost us \$100.00. They are FREE.
Inland Poultry Journal Company
15 Cord Building, - Indianapolis, Ind

Bee-keepers' Supplies Sold

At the very lowest profit possible. Dovetailed hives, sections, etc.; complete stock, bought in car lots. Subscriptions given with orders. Send for my 32-page catalog, free. **W. D. SOPER, Jackson, Mich.**

Big Stock of Root Co. and Marshfield Co.

BEE-SUPPLIES AT FACTORY PRICES

to close out on account of poor health. Parties sending me cash order for \$15.00 or over before June 30, I will give 10% off. If not enough in stock to fill order, will order balance from factory and give 5% off on same.

S. D. BUELL, UNION CITY, MICH.

BABY CHICKS

WE'VE GOT 'EM - YOU WANT EM.

Eight varieties of strictly standard-bred day-old chicks. From choice eggs. No purer blood ever wore feathers. Every Tuesday a hatch day. Kindly enclose two-cent stamp for catalog.

Ohio Hatchery and Mfg. Co., box 40, Bellevue, O.

CLASSIFIED ADVERTISEMENTS

Notices will be inserted in these classified columns at 25 cents per line. Advertisements intended for this department can not be less than two lines, and should not exceed five lines, and you must say you want your advertisement in the classified columns or we will not be responsible for errors.

Situations Wanted

SITUATION WANTED.—Work in apiary for young man of good habits who has taken course in bee farming at Massachusetts State Agricultural College.

Box 2076, GLEANINGS, Medina, Ohio.

Help Wanted

WANTED.—Young man, single, all around work on farm and bee-yard. If not experienced in heavy bee work do not apply. State wages, how soon can come, what can do, etc. Job good to Oct. 1st, possibly longer. **W. P. SMITH, Penn, Miss.**

WANTED.—A young man experienced in bee culture and the bee-supply trade, who desires a position in the central West. Good opportunity for one who can furnish unquestioned references as to ability and worth.

Box B, care of GLEANINGS IN BEE CULTURE, Medina, O.

Poultry Offers

FOR SALE.—White Wyandottes, best breeding, 15 eggs, 75 cts.; 30, \$1.25. **J. F. MICHAEL, Winchester, Ind.**

A. I. Root's Bee-goods, Poultry-supplies, Seeds, etc.
STAPLER'S, 412-414 Ferry St., Pittsburgh, Pa.

Fifteen S. C. B. Leghorn eggs given free with every order for six or more queens if mentioned with the order. See advertisement, page 481. Regular price for eggs, \$1.00 per 15; \$1.25 per 30; positively by return express.

J. E. HAND, Birmingham, Ohio.

For Sale

FOR SALE.—One Scotch collie bitch and three collie pups. **C. E. RAINS, Hustonville, Ill.**

FOR SALE.—Mated thoroughbred homer pigeons at \$1.00 per pair. **FRANKLIN G. FOX, Erwinna, Pa.**

FOR SALE.—Tasmanian necklace shells, any quantity. Sample sent. **G. H. SMITH, Ramsgate, Tasmania.**

FOR SALE.—300 lbs. Dadant's thin brood foundation, size 8x17 inches. **C. J. BALDRIDGE, Kendalia, N. Y.**

FOR SALE.—A full line of bee-keepers' supplies; also Italian bees and honey a specialty. Write for catalog and particulars. **W. P. SMITH, Penn, Miss.**

FOR SALE.—If you want an illustrated and descriptive catalog of bee-keepers' supplies for 1907 send your name and address to **FRANK S. STEPHENS, (Root's Goods)** Paden City, W. Va.

FOR SALE.—About 1300 or 1400 cases, two five-gallon cans each, practically free from nail-holes, and were new tins when originally shipped to us. Make us an offer.

CLEVELAND HEALTH FOOD Co., Cleveland, O.

FOR SALE.—60 8-frame L. Root bodies, with Hoffman wired worker combs; 75 comb-honey supers; 30 Root slatted 8-frame excluders. **C. E. CROWTHER, N. Kingsville, Ohio.**

FOR SALE.—Extractor, Novice, upright gearing, perfect order. **THEO. JENNINGS, 25 Park Place, New Rochelle, N. Y.**

FOR SALE.—200 cases of 5-gallon cans. All are free from rust inside, and the majority have been used but once. Two cans in a case; 10 cases or more, 25 cts. per case.

J. E. CRANE & SON, Middlebury, Vermont.

FOR SALE OR EXCHANGE.—Perfectly new, latest Oliver typewriter, 12-in. No. 5, with metal carrying-case, at agent's prices, or will exchange for bees, nuclei, or bee-supplies that I can use.

G. W. HARRIS, Jefferson, N. Y.

FOR SALE.—Best Wisconsin sections, 1000, \$4.00; 2000, \$7.75; 3000, \$11.00; 5000, \$17.50; No. 2, 50 cts. less; plain, 25 cts. less, 24-lb. 2-in. glass shipping-case, 14 cts. Catalog free.

H. S. DUBY, St. Anne, Ill.

FOR SALE.—Alexander wire bee-veils, no pins or sewing required; made from the very best wire cloth at 60 cents each, postpaid.

FRANK ALEXANDER, Delanson, N. Y.

FOR SALE.—Beautiful long-haired Persian and Angora cats and kittens; solid whites and various colors; none better. Send stamp for written reply.

KENSINGTON CATTERY, Marion, Ohio.

Don't bother with cans. Kegs are cheaper and easier to fill and handle. 160-lb. pine kegs, with 2-in. hole and plug, 50 cts. each, f. o. b. factory. Orders given prompt attention. Send list of supplies needed. I can save you money.

N. L. STEVENS, Moravia, N. Y.

FOR SALE.—75 eight-frame Root hives with good worker combs; used two seasons; also lid and bottom; \$1.60 each. One hundred 4 1/4 supers, trimmed with sections and foundation; used one season; 40 cts. each. Sixty 10-frame hives and five Danzenbaker hives, with combs wired, all Root's goods, \$1.75 each, without super. Thirty 8-frame supers, trimmed, \$3.00 each.

H. A. ROSS, Evansville, Indiana.

Comp'ete House Plans

Complete blue-print plans, \$10. For concrete cottage: Six rooms; bath; full basement. Est. cost, \$1200. Circular free.

CHAS. JAMISON, 444 Board of Trade, Indianapolis, Ind.

Real Estate for Bee-keepers

FOR SALE.—Five acres of ground, eight-room house, barn, chicken-houses, carriage-shed, vinegar-cellars, honey-house with all appliances, and 150 stands of bees.

C. R. ELLIS, Mancos, Colo.

Wants and Exchanges

WANTED.—Several pairs of gray squirrels. State price.

JOHN RICK, 434 Oley St., Reading, Pa.

WANTED.—Refuse from wax-extractors and old comb or cash.

ARCHIE COGGSHALL, Groton, N. Y.

WANTED.—Low-priced extractor for L. size frame. Name price.

C. B. THWING, Heed Bldg., Philadelphia, Pa.

WANTED.—Refuse from the wax-extractor, or slumgum. State quantity and price.

OREL L. HERSHISER, 301 Huntingdon Ave., Buffalo, N. Y.

WANTED.—I desire to secure a location for an apiary in New York State. Prefer location near a small town. Will buy a place with or without bees and fixtures. Give full particulars and lowest cash price. Apiary or locality must be free from disease.

BOX F, care of GLEANINGS, Medina, Ohio.

Bees and Queens

Untested queens (shipped from South), 60 cents each. Also bee-supplies. List free.

A. RATTRAY, Almont, Mich.

FOR SALE.—100 Heddon supers, wired combs, for 50 cents each.
W. L. COGGSHALL, Groton, N. Y.

FOR SALE.—Italian and Carniolan queens, untested, 75 cts.; tested, \$1.00.
GEO. E. KRAMER, Valencia, Pa.

FOR SALE.—Italian queens, hustlers. Untested, 65c; tested, \$1.00.
MRS. J. W. BACON, Waterloo, N. Y.

Italian queens, untested, 75 cts.; tested, \$1.00; 2-frame nuclei, with queen, \$2.50. E. M. COLLVER, 75 Broadway, Ossining, N. Y.

FOR SALE.—100 colonies of Italian bees at \$6.00 per colony; ten or more, \$5.00 each. G. H. ADAMS, Mill St., Bellevue, Schenectady, N. Y.

FOR SALE.—150 colonies of bees in uniform hives, free from disease. Also 150 empty hives.
S. E. TENNANT, Schoharie, N. Y.

FOR SALE.—Northern-bred red-clover queens. Untested, 75 cts.; tested, \$1.00.
E. S. WATSON, R. F. D. No. 2, Madison, Maine.

FOR SALE in June.—75 fine tested 1907 queens, best red-clover stock. One, \$1.00; 5, \$4.50. First and last call.
E. W. DIEFFENDORF, Otterville, Mo.

FOR SALE.—8 colonies of Italian bees, strong and healthy with plenty of honey, no disease, ready to do business at once. All in good standard hives. Will sell cheap.
A. L. CLAPP, Lodi, Ohio.

FOR SALE.—Selected young Italian queens, bred for superiority in honey production instead of color. Single queen, 75 cts.; 6 for \$4.00; one dozen for \$7.50. Also Golden all over, Cyprians, Carniolans, and Banatas.
JULIUS HOPPEL, 414 Up. 4th St., Evansville, Ind.

Save money by getting full colonies and nuclei; also one pound of bees and queens of same strains, bred in Medina apary, from Mechanic Falls branch.
J. B. MASON, Mechanic Falls, Me.

FOR SALE.—After May 15, Italian, Carniolan, Caucasian queens, untested, 75 cts.; 12, \$8.50; virgins, 40 cts.; 12, \$4.50. Nuclei, after June 10, 1, 2, 3 frames, including queens, \$2, \$3, \$4. Orders booked now. (Stamps not accepted.)
EDWARD REDDOU, Baldwinsville, N. Y.

Honey and Wax for Sale

FOR SALE.—5000 lbs. of clover and amber honey in 160-lb. kegs.
C. J. BALDRIDGE, Homestead Farm, Kendalia, N. Y.

FOR SALE.—White comb honey, No. 1, average 23 lbs. to the case of 24 sections, \$3.25 per case; amber, \$2.50. Fancy white extracted in 60-lb. cans, 10½ cts.; amber, 9½ cts.
HAROLD HORNOR, Jenkintown, Pa.

FOR SALE.—Choice extracted honey for table use—thick, well ripened, delicious flavor; color, light amber; remained on hives for months after being sealed over. Price 8 cts. per lb. in 60-lb. cans, two to case. Sample, 10 cts.
J. P. MOORE, queen-breeder, Morgan, Ky.

Honey and Wax Wanted

WANTED.—White ripe extracted honey; will pay cash.
GEORGE RAUCH,
No. 5343 Hudson Boulevard, North Bergen, N. J.

WANTED.—Comb, extracted honey, and beeswax. State price, kind, and quantity.
R. A. BURNETT, 199 South Water Street, Chicago, Ill.

Bee-keepers' Directory

Bee-keepers' Supply Co., Lincoln, Neb. We buy car lots of Root's goods. Save freight. Write.

ITALIAN QUEENS from imported mothers; red-clover strain, \$1.
A. W. YATES, 3 Chapman St., Hartford, Ct.

ITALIANS, CARNIOLANS. No disease. Two-comb nucleus with queen, \$3.00.
A. L. AMOS, Comstock, Nebraska.

Golden-all-over and red-clover Italian queens; circular ready.
W. A. SHUFF, 4426 Osage Ave., Philadelphia, Pa.

I club a high-grade Italian queen with GLEANINGS, new or renewal.
W. T. CRAWFORD, Hineston, La.

ITALIAN BEES, queens, honey, and Root's bee-keepers' supplies.
ALISO APIARY, El Toro, Cal.

Golden Italian queens, 75 cts. each. Satisfaction guaranteed.
WALTER S. HANS, 1127 Blaine Ave., Indianapolis, Ind.

Well-bred bees and queens. Hives and supplies.
J. H. M. COOK, 70 Cortlandt St., New York City.

For bee-smoker and honey-knife circular send card to
T. F. BINGHAM, Farwell, Mich.

GOLDEN yellow Italian queens—my specialty. Price list free.
E. E. LAWRENCE, Doniphian, Mo.

ROOT'S BEE SUPPLIES. Send for catalog.
D. COOLEY, Kendall, Mich.

SWARTHMORE Golden-all-over queens—the famous original stock. Queen-rearing outfit and books; 40-page catalog.
E. L. PRATT, Swarthmore, Pa.

Root's bee-supplies at factory prices, *Black Diamond Brand Honey*, and *bee-literature*. Catalog and circulars free.
GEO. S. GRAFFAM & BRO., Bangor, Maine.

Have you seen Hand's queen circular? It's an eye-opener. Your address on a postal card will bring it. It will pay you to send for it.
J. E. HAND,
Birmingham, Erie Co., Ohio.

QUEENS.—Improved red-clover Italians, bred for business, June 1 to Nov. 15, untested queens, 60 cts.; select, 75 cts.; tested, \$1.00 each. Safe arrival and satisfaction guaranteed.
H. C. CLEMONS, Boyd, Ky.

Mott's long-tongued Italians are climatized to cold winters yet gentle and hardy. Circular free.
E. E. MOTT, Glenwood, Mich.

Improved Italian queens now ready. Nuclei and colonies May 1 to 10. Over twenty years a breeder; 500 colonies to draw on. Free circulars and testimonials. For prices see large advertisement in this issue.
QUIRIN-THE-QUEEN-BREEDER, Bellevue, O.

ITALIAN BEES AND QUEENS. I breed three-banded stock only, and use the finest breeding stock to be had. For prices, see display advertising columns in this issue. Send for price list. Twenty-five years' experience.
F. J. WARDELL, Urichsville, O.

TENNESSEE QUEENS.—Best that experience can produce. Untested three-band and goldens, \$1.00 each; 6 for \$5.00; 12 for \$9.00. Caucasians and Carniolans, \$1.25 each. Write for circular; order goldens from Ben G. Davis; others from John M. Davis, Spring Hill, Tenn.

Breeding queens of pure Caucasian and Carniolan races—price \$3.00. Order from A. E. Tifff, Expert in Apiculture, with Russian Department of Agriculture, Kieff, Russia. Remit with orders. Correspondence in English.

SPECIAL NOTICES

BY OUR BUSINESS MANAGER

We have just received a special importation of Italian queens. As other importations are coming we shall be in position to send this year's stock.

We are issuing an appendix to our little book, "Modern Queen-rearing." To those who have already purchased this work we will furnish the appendix for 2 cts. to cover postage.

The Alexander bee-veils are proving to be very satisfactory. They are just the thing for extremely warm weather, because they can be worn without a hat, thus avoiding the unpleasant sweat-line around the forehead where an ordinary hat is worn. Price 72c postpaid.

FOUNDATION SPLINTS.

Some have been writing Dr. Miller for foundation-splints. He does not have them for sale. We are prepared to furnish them for 10 cts. per 100, 50 cts. per 1000 postpaid, or 40 cts. per 1000 with other goods.

MISMATED CAUCASIAN QUEENS.

At our south yard we had quite a number of mismated Caucasian queens, a cross between our leather-colored strains of Italians and Caucasians. There may be some who desire this mixture. So long as they last we will furnish them for \$1.00 each. When we run out we will take the liberty of substituting an untested Italian.

SPECIAL BARGAINS.

We call your attention to a page of special bargains in beekeepers' supplies—some styles not listed at present in our catalog, but which are preferred by some. Most of these goods are offered at reduced prices. If you see any thing you can use, let us have your order and we will see that the goods are promptly forwarded. See our issue for May 1.

HIVE NUMBERS.

We can supply hive numbers with figures 1½ inches high, printed on tough cardboard, then boiled in paraffine so as not to be injured by the weather. They may be fastened to the hive with tinned tacks. We have them in sets up to 400 numbers. Price \$4.00 per set postpaid, or \$3.50 with other goods; 100 postpaid, \$1.15, or \$1.00 not prepaid; 50 postpaid for 65 cts.; not prepaid, 60 cts.

BEESWAX.

For good average beeswax shipped before the middle of June we will pay 29 cts. per lb. cash, or 31 in trade delivered here. The season is so far advanced that we make this raise of 1 ct. per lb. for two weeks only, because we do not want to stock up at the close of the season at high prices. If you have any to furnish send it on at once and secure this temporary rise in price.

CARTONS FOR OUNCE CAKES OF BEESWAX.

We can supply cartons for one-ounce cakes of beeswax, printed with name and address blank, at 35 cts. per 100; 250 for 80 cts.; 500 for \$1.50; 1000 for \$2.75; by mail, 15 cts. per 100 extra. These prices will also include the large carton to contain 32 of the small ones. The complete package weighs 2 lbs., and, when filled, sells to the dealer at \$1.00. They retail the cakes at 5 cts. each. Retinned molds for molding ounce cakes cost 35 cts. per dozen; by mail, 40 cts.; for two-ounce cakes, 40 cts.; by mail, 50. We do not have cartons to fit the two-ounce cakes. To print your name and address on the cartons will add, 250 or less, 50 cts.; 500, 75 cts.; 1000, \$1.00.

BUSINESS BOOMING.

There has been an unusual amount of swarming this season, and in many localities it has been about a month early. As a result, there has been an unexpected demand for hives. Our capacity has been taxed to its utmost, running 11 hours a day, and still many customers have been disappointed in time of delivery. Such seasons as this emphasize the importance of being forehanded and better prepared for emergencies. Dealers need to carry larger stocks, and bee-keepers should anticipate their needs longer in advance. The foresighted people who order in the fall and early winter, taking time to get their goods, not only at reduced prices, but also in time to prepare them for use in leisure

time ready for use when the season opens, are the fortunate ones in a time like this. We have a good supply of sections ready for prompt shipment, also of most other goods except hives and supers. Some of our dealers have been obliged to hold orders waiting for fresh stock to arrive, and we have been unable to ship as promptly as we should like, because of our inability to turn the goods out fast enough.

SIMPLEX HONEY-JARS.



The factory people have advised us of a carload of these jars as already on the way to us, with more to follow in due course. By the time your order reaches us we shall have a supply in the warehouse, ready for instant shipment. They will be packed in reshipping-cases of two dozen each, and the price will be \$1.10 per case; six cases, \$6.30.

NO. 25 HONEY-JARS.

During the past year we have had an unusual amount of trouble with breakage of this jar, even in the reshipping-cases packed with corrugated paper. The breakage occurred either in the porcelain cap or the top rim of the jar where the cap rests. We find we can get this same jar with lacquered tin cap without the center being cut out. This cap is lined with a waxed paper wad which seals tight on the top edge of the jar. This style of cap not only does away with nearly all breakage, but enables us to furnish the jar at a lower price. We are now ready to fill orders. They will be packed as usual, two dozen in reshipping partitioned cases. No. 25 jars, tin cap lined, 90 cts. per case; 6 cases, \$5.10. We can still furnish from stock the usual style of No. 25 with porcelain caps at \$1.10 per case; 6 cases, \$6.30.



JAPANESE BUCKWHEAT.

The season for sowing buckwheat is at hand. We have a choice lot of seed grown for us last season, which we offer, bags included, at 15 cts. per pound, postpaid; not prepaid, 5 cts. per lb.; 45 cts. per peck; 85 cts. per half-bushel; \$1.50 per bushel; 2 bushels, \$2.50; 10 bushels, \$11.50.

BEES AND FRUIT.

We have just issued from the press a new booklet by E. R. Root on the subject of the bee-keeper versus fruit-grower, explaining how their interests are mutual; also how the fruit-grower can keep a few bees to pollenate his fruit-trees and not be troubled with swarming. This booklet is nothing more or less than an address delivered by Mr. Root for the Ohio Agricultural Society, at Columbus, comprising not only horticulturists but pomologists of note throughout Ohio. He introduced a large amount of evidence going to show that there is no direct antagonism between the fruit-grower and the bee-keeper — that their interests are mutual and interrelated, and to a great extent one depends on the other.

While Mr. Root spoke from the standpoint of a bee-keeper, yet he was surprised to learn that the fruit-growers not only indorsed every statement he made, but furnished a considerable amount of additional data.

He also explained how the fruit-grower can keep a few bees to pollinate his trees without swarming, and at the same time secure quite a little crop of honey. All this and more is set forth in the booklet mentioned above. It belongs to our ten-cent library; but in case a bee-keeper is having trouble with his neighbors these booklets will be furnished at a very liberal reduction; namely, \$1.50 per 100 by express or freight with other goods, or \$2.00 per 100 postpaid. Much of the evidence furnished is from fruit-growers of experience and standing; and a few of these booklets distributed in a neighborhood will do much good.

SECOND-HAND FOUNDATION-MILLS.

We have to offer the following second-hand foundation-mills in good condition. We shall be pleased to hear from any one interested. To such we can send a small sample of comb foundation representing the kind of work produced by the particular machine you inquire about.

No. 079.—6x2½-inch hex. cell thin-super mill, in very good condition. Price \$12.00.

No. 078.—6x2½-inch hex. cell thin-super mill, in good condition. Price \$12.00.

No. 086.—6x2½-inch hex. cell extra-thin-super mill, in good condition. Price \$12.00.

No. 075.—2x9 hex., very old style, on frame with wood base; in fair condition. Price \$10.00.

No. 085.—2½x6 hex. thin-super mill, in good condition. Price \$12.00.

No. 086.—2½x6 hex. extra-thin-super mill in extra-good condition. Price \$15.00.

No. 096.—2½x10 hex. light-brood mill; almost new; in fine condition. Price \$20.00.

No. 097.—2½x10 hex. light-brood mill; in fine condition. Price \$18.00.

No. 077.—10x2-inch medium-brood round cell, old-style frame, in good condition. Price \$14.00.

No. 092.—6x2½-inch hex. cell extra-thin-super mill, in fine condition. Price \$15.00.

No. 2275.—6x2½-inch hex. cell extra-thin-super mill, in good condition. Price \$13.00.

Special Notices by A. I. Root

"AGE AND EXPERIENCE."

Huber suggested, after reading my "Travels," on another page, that I failed to mention that, when I reached Medina, I found my steering apparatus badly broken in consequence of running at break-neck speed over roads unfit for travel, notwithstanding my "age and experience." He says I also neglected to say that Ernest carried five passengers while I had none.

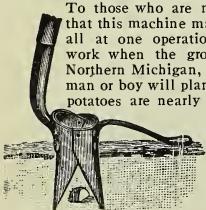
THE NEW TESTAMENT IN SPANISH AND ENGLISH.

After my trip to Cuba, my account of the help received in learning the Spanish language from the above little book caused the sale of a great number of them. You not only learn the language by the use of this book, but you are at the same time getting a knowledge that is of more importance than all the language on the face of the earth—namely, something about the trip that we are all taking (or ought to be taking) from earth to heaven. Price 25 cts.; by mail, 35.

THE ACME HAND POTATO-PLANTER.

As we are now out of the seed-potato business we offer about four dozen Acme potato-planters at a big bargain to close out.

To those who are not familiar with them we will say that this machine makes the holes, and drops and covers all at one operation. Once over the field does the work when the ground is fitted. In the soft soil of Northern Michigan, the great potato region, one expert man or boy will plant two acres in a day. Up there the potatoes are nearly all planted with this little implement. A year ago we offered them at 55 cents each, or three or more at 50 cents each, or one dozen for \$5.25. While they last we will make you a price of 45 cents each, or three planters for \$1.20, or a crate of 12 for \$4.00. If you want them at the above price you had better get your order in before they are gone.



"GRAFT" AND THE EXPRESS COMPANIES.

In looking over one of the day-old-chicks catalog which gives the amount of express charges to different points from New Washington, Ohio, it seemed to me the charges were excessive. For instance, 25 chicks in a little pasteboard box weighing only 3 lbs. was not less than 50 cents *anywhere*, even to the next station. I presume they charge a little more because the chicks must be delivered within three days. Even if this be true, it seems to me the charge is double what it should be, or more than that. Here is something from the *Farmers' Guide* of April 18. It is clipped from a two-column article:

"By a recent opinion and order issued by the Indiana Railroad Commission, express rates in the State are to be reduced on an average of between 10 and 12 per cent. New schedules according to this reduction will be adopted by the express companies within the next thirty days.

"The opinion handed down in this case is one of the most elaborate ever issued by the Indiana Railroad Commission. It is interesting in that it lays bare the history of the express companies from the time that they were first instituted up to the present time. The commission reports that it was with considerable difficulty the investigation was carried on, as very little volunteer information could be secured. Therefore the facts had to be dug up as best they could. Nevertheless, they seem to be quite complete, and will, we think, give the public a new idea of what a universal robbery and public hold-up game the entire express business is."

I should be glad to give the whole article, but a lack of space forbids. In going over this matter in conversation with the Reasoner Brothers, the great nurserymen in tropical plants, Mr. Reasoner recommended our editorials in regard to parcels post; and, approaching his desk, he spoke something as follows:

"The whole world knows that the charges of the express companies are out of reason. But that is not all. There is a universal steal going on all over our land in order to get *even more* than these outrageous prices. See here."

He picked up a lot of papers strung on a wire, and resumed:

"There has been so much overcharging that I send a printed slip with every shipment, giving the correct amount of expressage, and asking my customers to report at once to me if the agent asked for a larger amount. And here is all this pile of complaints. It would seem that almost every time there is an overcharge, and most people consider it more trouble to readjust and collect than the amount is worth, and so they let it go. Now, this discourages purchasers, clogs our business, and is an outrage on society in general."

I hope the *Guide* and other periodicals will continue to expose and hold up this outrage until we have parcels post in spite of all the express companies with their wealth can do to stop it.

THE WRIGHT BROTHERS AND THEIR FLYING-MACHINE

I suppose most of the friends have kept posted in regard to the Wright Brothers, for their exploits have been given in all the papers of the United States. The Wright Brothers themselves have not seen fit to make any report of their doings; but if the reporters are to be credited, who witnessed their flight (of course at a distance), they have made a record of eight miles in 7½ minutes, which is a little over a mile a minute. They have also a machine that carries two people sitting up as one would in a buggy or an automobile. Lastly they made a trip out over the ocean, two miles and back; but their machine was finally disabled by an accident, obliging them to lie off for a time for necessary repairs; but as they have other machines here in Ohio, however, we shall expect to hear from them further very soon.

Later.—Since the above was dictated we find the following in the Bangor, Me., *Weekly Commercial*:

Thursday's experiments proved but a repetition of Wednesday's achievements, when the dauntless aeronauts accomplished four successful flights, two of them after sunset, covering three and a half to four miles each time, and doing four miles down the coast in two minutes and fifty seconds at an altitude of forty feet. The aeronauts alighted each time, moreover, at the place of starting.

Thursday's flights were satisfactory to the inventors, and both the morning and afternoon were utilized. The inventors were astir early, and had their airship ready and in operation at an hour when it was impossible for the visitors to reach the immediate neighborhood of Kill Devil from Manteo, a place where strangers can be domiciled, a good dozen miles across the sound. Every thing favored the test.

The inventors will continue their experiments there as long as they can do so without being hampered by too many curious eyes. The aeronauts are afraid some one may learn their secret, and they are taking no chances in safeguarding the machine. They keep it a sheltered house behind a sand dune, near the life-saving station, and they sleep close to it with a loaded rifle within reach. When any person, such as a newspaper correspondent or a photographer appears anywhere on the beach, the inventors lose no time in covering the aeroplane and carrying it to their house. Nevertheless, quite a number of visitors have arrived in the vicinity, mostly magazine and newspaper writers, and photographers.

ARE YOU LOOKING AHEAD?

Mixed farming as a profitable occupation is no longer an experiment in the Dakotas and Montana. Most of the products of the Middle West are successfully raised there each year without irrigation.

Where a few years ago cattle-raising was the principal occupation, settlers are now successfully engaging in diversified farming, truck farming, dairying, and poultry-raising. To-day's opportunities in these lines are along the Pacific Coast extension of the

Chicago Milwaukee & St. Paul Railway

Good land may be bought from \$15 an acre upward along this new line in the Dakotas and Montana. Plenty of government homestead land may still be secured close to the towns on this new line. Markets for the crops are assured.

Homeseekers' excursions to points on the new line in the Dakotas and Montana on June 2 and June 16. Low fares; stop-overs allowed. Tickets good 21 days from date of sale. Complete information free.

Books describing the present opportunities along this new line are free for the asking.

F. A. MILLER
General Passenger Agent
Chicago

E. C. HAYDEN
Traveling Passenger Agent
426 Superior Ave., N. E., Cleveland

Mr. Bee-keeper,

Was 1907 a POOR YEAR for you?

It was a GOOD YEAR for users of

DADANTS' FOUNDATION.

One dealer used 14,000 pounds.

Another dealer used 7,250 pounds. Another dealer used 4,500 pounds. Another dealer used 4,500 pounds. Another dealer used 6,000 pounds. Another dealer used 4,500 pounds. Another dealer used 3,000 pounds.

Thousands of pounds sold to the bee-keeper direct, or worked up for him out of his beeswax.

The DEALER likes DADANT'S FOUNDATION because the bee-keeper likes it.

The bee-keeper likes it because his BEES like it.

The BEES like it because it is exactly like their own comb, so PURE and SWEET and CLEAN.

DADANT'S FOUNDATION is the Standard because it is the BEST.

Wax worked into foundation.

Send for our Supply Catalog.

DADANT & SONS, HAMILTON, ILL.

SUPPLIES FOR BEE-KEEPERS

Every thing you want; all made by us
in our own factories--at
LOWEST PRICES.

The American Bee-keeper (published 17 years), a monthly at 50 cts.
a year. Sample copy and illustrated catalog and price list free. Address

W. T. FALCONER MFG. CO.

DEPARTMENT G,

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JAMESTOWN, N. Y.

THE Publishers Failure

Places in our hands the remainder of Their Greatest Publication

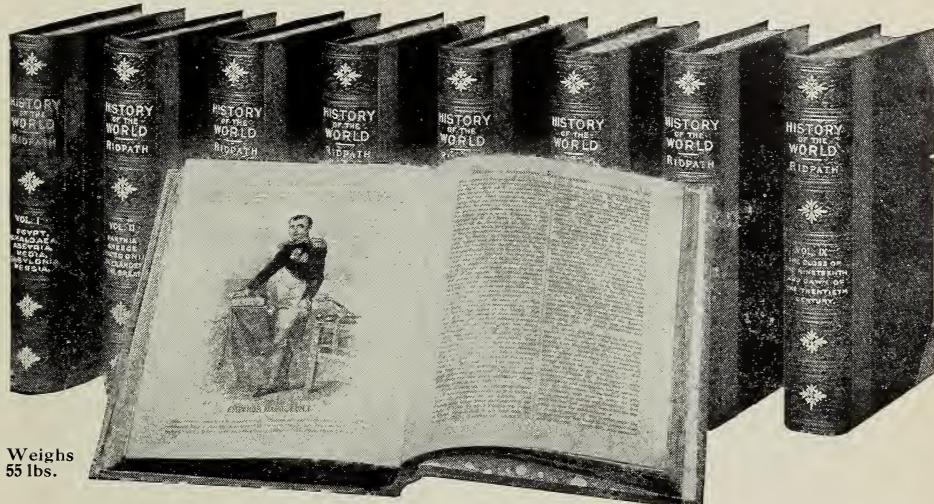
Ridpath's History of the World

9 Massive Royal Octavo Volumes, 4000 double-column pages, 2000 superb illustrations.
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